FY 1990 HAZARDOUS WASTE COMPLIANCE MONITORING AND ENFORCEMENT LOG

1. EPA ID: IPIAIDI0I0I3I0I1I5I3I2I8I

2. HANDLER NAME: Raymark Industries, Inc.

3. ADDRESS: 75 E. Main St. Stratford, CT 06497

4. Data Entry
New [ ]
Update [/]

5. DATE OF INITIAL EVALUATION WHICH IS THE BASIS FOR THIS REPORT: 9/12/90

5a. AGENCY RESPONSIBLE FOR EVALUATION: Put code in box [S]
E = EPA; S = State; C = Contractor/EPA; O = Other; B = Contractor/State; X = Oversight

6. TYPE OF EVALUATION COVERED BY THIS REPORT: SELECT EVALUATION Type and insert in box: [4]
1 = Compliance Eval. Inspection(CEI); 2 = Sampling Inspection; 3 = Record Review; 4 = Comp GW Eval(CME); 5 = Compliance Sched. Eval; 11 = Case Dev. Inspection; 12 = O&M Inspection

7. DATE OF EVALUATION COVERED BY THIS REPORT (enter only if different from 5): __/__/__

7a. Eval. Comments: inspection coincident with quarterly groundwater sampling event

8. CLASS and VIOLATIONS

Key
'V'=Violations, no Specialties
'B'=Violations & Specialty
'S'=Same Viol./Specialty
'Z'=Pending Determination
'O'=No Viol or Specialty found

'I' = No insurance only
'C' = CA Schedule Violation
'H' = HPV
* = Class I only

Class of Violation	GW	C/PC	Fin.Res	Pt. B	Cmpl.Sch	Manifest	Land-Ban	Other
I	O							
II	O							
Acceptable Codes								
	X S Z O H	X S Z O H	X S Z O I* B* H	X S Z O H	X S Z O C B H	X S Z O H	X S Z O H	X S Z O H

Viol Comment: no violations

9. ENFORCEMENT ACTIONS:

Class	Area of Viol/rel.	Type (use code)	Date Action Taken	Compliance Dates Scheduled	Compliance Dates Actual	Penalty Assessed	Penalty Collected	Resp. Agency (use code)

Codes for Types of Enforcement Actions: 03 = Warning Letter; 04 = Admin. Complaint; 05 = Final Admin. Order; 10 = Informal; 11 = Filed Civil Action; 12 = Filed Criminal Action; 18 = Civil Referral to AG/DOJ; 19 = Final Judicial Order; 15 = CA Init. Admin Order; 16 = CA Final Admin Order; 21 = Notice of Non-Comp; 22 = FFCA; 23 = Fed. Fac. Referral to HQ

Resp Agency Codes: E = EPA; S = State; X = EPA Oversight

10. Enforc. Comment: no enforcement required for monitoring

Title: CME-90

Facility: Raymark Industries

I.D. #: PAD003015328

Date: Nov. 8, 1990

Inspector: Thomas J. Miller
Hydrogeologist
Pa. DER (717) 657-4588

Date of Inspection: Sept. 12, 1990

Responsible Individual/Contact: Robert Moody

Telephone #:1 (203) 377-4616

INTRODUCTION

The Raymark landfill is a captive facility owned and operated by Raymark Industries, Inc. The manufacturing plant and landfill are located in Manheim Borough, Lancaster Co., Penna. Raymark's Manheim facility has been in operation for approximately seventy-five (75) years producing materials for use in clutch, brake and other specialty friction applications. In 1988, a separate company, Raymark Friction took over the industrial processes at the facility, however the landfill and other SWMUs on the property are still the responsibility of Raymark Industries.

The landfill was permitted by the PaDER on July 14, 1977 under Industrial Waste Permit Number 300628 even though it had been in operation reportedly since the 1940's. The landfill has been used for the disposal of off-specification products, binding agent wastes and dust collector fines from grinding and finishing operations. The latter waste, the dust collector fines is hazardous waste by virtue of its characteristic lead content in excess of 5.0 mg/l when subjected to the EP Toxicity Leaching Procedure [25 Pa Code, Chapter 75, Section 261.24(a)]. The waste in the landfill therefore is classified as Hazardous Waste # D008.

Currently inactive, the landfill occupies 10.5 acres of surface area and contains approximately 186,000 cubic yards of waste material. The facility is covered for the most part but not closed, in the manner required by RCRA.

REGULATORY HISTORY

The Raymark landfill was permitted in the late 1970's by the PaDER. The landfill had been operating for many years and

permitting involved compliance with monitoring and operational as opposed to design requirements. The company followed notification requirements when the RCRA became effective in Pennsylvania. A Part B application was submitted to the Department on December 8, 1983 and a variance request was submitted in January of 1984. These docments claimed that fill onto existing ground was providing equivalent environmental protection to that of a double liner. Since the facility was already into a groundwater assessment program the Department determined that equivalent protection to the groundwater system was not being provided. By letter dated March 1, 1985, DER denied Raymark's Part B application and variance requests. The company was notified that a closure plan for the facility would be required.

A Closure Plan was submitted to the Department on April 24, 1987. This plan again requested variance from closure requirements for isolation distance to groundwater (even though this is not required by regulation), capping and cover requirements. A review letter dated September 23, 1987 was mailed to Raymark asking for a satisfactory response to deficiencies of the Closure Plan as identified in the review letter. The major deficiencies were:

1) an asphalt cap was proposed.
2) waste material was below the regional water table.
3) waste was disposed within the 100 year floodplain of Chickies Creek.

A revised Closure Plan was submitted to the Department in May of 1990. This plan proposed the same basic approach as the 1987 plan except that waste was to be removed from the floodway of the Creek. Raymark maintains that as a company, they are financially incapable of executing a landfill closure which would meet the requirements of RCRA. The landfill is inactive and most of the waste is covered by either a soil or asphalt cover to prevent removal by wind or water. The case is now in litigation over the adequacy of the closure plan and negotiations are continuing between Raymark and the Department.

GROUNDWATER MONITORING

Raymark established a monitoring network of five (5) wells to satisfy the monitoring requirements of 25 Pa Code Chapter 75.265(n). This network was modified throughout the past decade with the addition of an unaffected upgradient monitoring well and a paired (shallow and deep) well cluster. In addition to these wells, numerous wells, piezometers and boreholes have been installed and maintained through the landfill itself. As a result, accurate groundwater elevation contour maps are possible and have been prepared by BCM (consultant) for Raymark (Figures 3-4 and 3-5 attached). The shallow water table map (Figure 3-4) clearly shows the groundwater mound which has developed in response to the location and operation of the landfill.

Figure 3-3 (BCM drawing) shows the elevation of the base of the landfill as determined from borings. Comparison of these figures,

3-3, 3-4 and 3-5 from the closure plan illustrates that:

1) A positive gradient exists between the elevation of the water table in shallow wells (Figure 3-4) to the elevation of the water table in nearby deep wells (Figure 3-5).

2) The elevation of the bottom of the landfill is lower than either the deep or the shallow water table elevations.

3) The majority of the perimeter or "footprint" of the landfill is below groundwater elevation.

Figure A-6-3, a conceptual cross section from the BCM Closure Plan illustrates several of these points.

GROUNDWATER AND GEOCHEMISTRY

Groundwater beneath the Raymark Landfill exists in two regimes, saturated alluvium and carbonate bedrock of the Ordivician age Epler and Stonehenge Formations. The groundwater is under water table conditions in the alluvium and probably behaves as if semi-confined within fractures in the bedrock. The two regimes are hydraulically connected, however. The attached Figure 1 shows the location of the Raymark facility in the context of the regional geologic setting. Groundwater in the Epler Formation is a calcium-bicarbonate type with generally low levels of sodium, chloride, sulfate and dissolved metals except calcium and magnesium. Water from monitoring wells at the Raymark landfill is affected with high dissolved solids, anomalously high levels of alkalinity and high levels of sulfate. Lead is seen in analyses only sporadically and at levels rarely exceeding the drinking water standard. Examination of the PaDER Bureau of Laboratories analytical results (tabulated as Table 1) shows that downgradient shallow monitoring wells are affected by ionic contaminants as a result of the operation of the landfill. Hazardous organic constituents do not appear in the monitoring wells except for volatile organic chemical contamination at low levels in well #3. Total lead was relatively high in well #10A but was less than the detection limit as a dissolved constituent of the groundwater. The abundance of bicarbonate and sulfate ions probably acts to limit the migration of lead and other metals through the formation of low solubility minerals such as Cerussite ($PbCO_3$) or lead sulfate ($PbSO_4$). Continuing efforts will be made during closure to verify the oxidation-reduction conditions within the landfill since they influence the solubility (and mobility) of heavy metals.

The relationship between groundwater and surface water of the Chickies Creek which borders the landfill has not been adequately demonstrated. A stream gauging survey of the stream was made by BCM but no conclusions were reached as a result. The Closure Plan alludes to groundwater discharge to Chickies Creek but this condition has not been shown to exist. Sediment samples were taken by the Department on September 19, 1990 at several locations along the stream to determine if metals were accumulating in stream sediments. At the time of this writing, results have not yet been received from the DER laboratory.

RAYMARK CLOSURE PLAN

Raymark has submitted comprehensive colsure plan applications to the Department on two occasions, 1987 and 1990. The proposed method of closure was to cap all waste material in the landfill with asphalt. This concept was rejected by the Department because asphalt was not an approved cap material on Table 3 of Appendix E, Chapter 75, Section 264. It was also discovered during closure investigations that approximately one-third of the volume of landfilled waste was submerged in the regional groundwater system or a contiguous groundwater mound which had formed within the landfill. The landfill was also found to be totally within the 100 year floodplain of the Chickies Creek.

The 1990 version of the Closure Plan gave a cursory evaluation of the feasibility of lowering the groundwater system beneath the bottom of the landfill. It was concluded that the procedure was too costly and technically difficult. Other methods of closure such as total removal or "in-situ" chemical stabilization were portrayed as prohibitibely expensive. This is probably true since Raymark Industries is currently attempting to forestall an involuntary filing of bankruptcy by its creditors. As a result, the 1990 closure plan again recommended asphalt capping as its preferred closure alternative. The Department has not formally responded to this proposal due to pending litigation. A settlement alternative offered to Raymark by PaDER would require consolidation of all extraneous waste material within the landfill, removal of waste from the Chickies Creek floodway and cover with soil and vegetation. Additional geochemical monitoring of the groundwater would be required in addition to financial assurrance of the availability of several million dollars for contingencies such as groundwater recovery and treatment if degredation of groundwater quality increased. A rationale for this course of action is that installing an impervious cap of any material on this site would do little to further limit exposure of waste to the groundwater system since it is already submerged. Additionally, a cap would inhibit removal or stabilization efforts if that would become necessary in the future. Geochemical reactions appear to be inhibiting the migration of heavy metal contaminants away from the landfill. Installation of an additional monitoring well, verification of postulated geochemical processes and continuation of groundwater monitoring would be used to assess the continuing effect of this site on the environment while closure and post-closure activities were being conducted.

SAMPLING

The groundwater monitoring system at Raymark consists of seven (7) wells. Five (5) of the wells monitor groundwater in the shallow alluvial system and two (2) are primarily in bedrock. Wells W-9 (shallow) and W-7 (deep) are hydraulically upgradient of the site but W-7 is affected by nitrate nitrogen contamination from adjacent

agricultural fields.

Wells were purged by Raymark personnel the day before the actual sampling occurred on Sept. 12, 1990. All wells except W-10A have dedicated submersible pumps which discharge through pitless adapter fittings to sampling taps. High capacity wells were pumped for one-half hour and low capacity wells were evacuated to the level of the pump intake. The dedicated pump and discharge pipe were then removed from each well after completion of the purge. The following day, samples were taken by means of teflon bailers after which the purging pumps were reinstalled. Samples for dissolved metals were field filtered by means of a Millipore stainless steel and teflon filter holder through a 0.45 micron filter under nitrogen gas pressure. The filter apparatus was cleaned with soap, de-ionized water and rinsed with nitric acid and de-ionized water after each use. Lifting lines, bailers and sampling equipment were kept off the ground. Samples were transported on ice to the consultants laboratory. The sampling procedures were good and should allow analytical data representative of groundwater quality at the site. A recommendation was made to install drop tubes in monitoring wells to allow bailer sampling without removal of the purge pumps. All DER samples were taken from the same aliquot of water as the Raymark sample for each parameter. DER samples were preserved, legal sealed and transported to the Department's laboratory in Harrisburg for analysis. Complete copies of reported sampling results are attached to this report as is a completed CME Worksheet.

SAMPLE RESULTS

To date, sampling results from Raymark have not been received. A comparison of split-sampling results is therefore not possible as an attachment to this report. Table 1 summarizes data from wells sampled for this inspection. Downgradient shallow monitoring wells most clearly show the effects of the landfill through elevated sulfate and TDS concentrations. Low levels of volatile and semi-volatile organic compounds were seen only in well #3 and lead was not reported above the detection limit of 4 ug/l.

SUMMARY

The Raymark Industries Landfill is currently inactive. Hazardous waste classified as D008 for its characteristic of leaching lead in excess of 5.0 mg/l (EP Toxicity Leaching Procedure) is covered with asphalt pavement or soil at this site. The estimated volume of the landfill is 186,000 cubic yards of which approximately 55,000 cubic yards are saturated by immersion in a groundwater mound or the regional groundwater system. The waste is totally within the 100 year flood plain boundary of Chickies Creek.

As a consequence of being located on carbonate bedrock, groundwater at the site is alkaline. The abundance of anions available appears to allow the formation of low solubility lead

compounds which prevents widespread or rapid dissemination of lead to the environment through the groundwater.

Raymark is currently in compliance with applicable groundwater monitoring regulations. Closure negotiations are continuing.

TABLE 1

WELL	W-9	W-3	W-6	W-10A	W-10B	W-4	W-7	W-8
Depth (FT)	17.5	32	22.95	14	77	44	80	25
M.P.elev	400.06	400.53	401.63	398.8	397.3	397.72	407.71	396.3
Static	7.97	10.37	15.87	8.69	11.45	6.55	16.85	5.0
W.L.elev	392.09	390.16	385.76	390.11	385.85	391.17	390.86	391.3
pH(lab)	7.5	7.6	7.3	7.1	7.4	--	--	--
SC(umho/cm)	550	2750	1165	1560	1200	--	--	--
in mg/l								
TDS	358	2232	948	1418	876	--	--	--
Alk	216	1678	554	558	582	--	--	--
SO_4	35	510	286	646	211	--	--	--
Diss metals								
in ug/l								
Cu	23	28	22	50	19	--	--	--
Fe	55	8990	46	3420	109	--	--	--
Mn	<10	2130	879	2400	306	--	--	--
Pb	<4	<4	<4	<4	<4	--	--	--
Zn	12	69	3690	5770	916	--	--	--
VOC	Chfm 3.7	DCE 2.8 Bze 2.3 CBz 3.5 VC 4.2	ND	ND	ND	--	--	--
SemiVol	ND	phenol	ND	ND	ND	--	--	--

VOC Key:
Bze = Benzene
CBze = Chlorobenzene
Chfm = Chloroform
DCE = CIS-1,2 Dichloroethylene
VC = Vinyl Chloride

PaDER SAMPLE RESULTS

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF SOLID WASTE MANAGEMENT
One Ararat Boulevard
Harrisburg, Pennsylvania 17110
(717) 657-4588

Robert Moody
Raymark Industries, Inc.
75 E. Main St.
Stratford, CT
06497

10/9/90

Re: Sample Analyses

Dear Mr Moody :

Enclosed please find copies of analyses of:

_____ Surface Water Samples

_/_ Ground Water Samples

_____ Soil Samples

The samples analyzed were collected from your property by Department personnel on 09/12/90 .

If you have any questions concerning this matter, please feel free to contact this office.

Very truly yours,

Thomas J. Miller
Hydrogeologist
Harrisburg Regional Office

Enclosure(s)

cc:

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF SOLID WASTE MANAGEMENT
One Ararat Boulevard
Harrisburg, Pennsylvania 17110
(717) 657-4588

Robert Moody
Raymark Industries Inc
75 E. Main st.
Stratford, CT
06497

10/17/90

Re: Sample Analyses

Dear Mr Moody :

Enclosed please find copies of analyses of:

____ Surface Water Samples

_/_ Ground Water Samples

____ Soil Samples

The samples analyzed were collected from your property by Department personnel on 9/12/90.

If you have any questions concerning this matter, please feel free to contact this office.

Very truly yours,

Thomas J. Milley
Hydrogeologist
Harrisburg Regional Office

Enclosure(s)

cc:

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF SOLID WASTE MANAGEMENT
One Ararat Boulevard
Harrisburg, Pennsylvania 17110
(717) 657-4588

10/23/90

Robert Moody
Raymark Industries Inc.
75 E. Main Street
Stratford, CT
06497

Re: Sample Analyses (semi-volatile)
W-13
W-6
W-10A
W-10B
W-3
(W-9 sent w/10)

Dear Mr. Moody :

Enclosed please find copies of analyses of:

_____ Surface Water Samples

___/___ Ground Water Samples

_____ Soil Samples

The samples analyzed were collected from your property by Department personnel on 09/12/90 .

If you have any questions concerning this matter, please feel free to contact this office.

Very truly yours,

Thomas J. Miller
Hydrogeologist
Harrisburg Regional Office

Enclosure(s)

cc:

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF SOLID WASTE MANAGEMENT
One Ararat Boulevard
Harrisburg, Pennsylvania 17110
(717) 657-4588

Robert Moody
Raymark Industries Inc.
75 E. Main St.
Stratford, CT
06497

Re: Sample Analyses
W-6 metals

Dear Mr. Moody :

Enclosed please find copies of analyses of:

_____ Surface Water Samples

__/__ Ground Water Samples

_____ Soil Samples

The samples analyzed were collected from your property by Department personnel on 09/12/90 .

If you have any questions concerning this matter, please feel free to contact this office.

Very truly yours,

Thomas J. Miller
Hydrogeologist
Harrisburg Regional Office

Enclosure(s)

cc:

sub 2 - fix HNO3
sub 3 - non metals
sub 4 - VOA
sub 5 - semi vol

DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF LABORATORIES

WATER OR WASTE QUALITY REPORT

ALL CHEMICAL ANALYSES EXPRESSED IN MG/L UNLESS OTHERWISE SPECIFIED

LAB. Number

Date Received 031390

ESTABLISHMENT	CASE	FACILITY	COLL NUMBER
Raymark	CME-90	W-6	2310

COUNTY	MUNICIPALITY	PROGRAM	COLL NAME	TYPE TR	STD ANALYSIS
Lancaster	Manheim	WM	T.J. Miller 657-4588		200

CARD (3)	ID CODE (ALL CARDS) 4-16 Cnty / Mun / T / Est / Case / Fac	LATITUDE 4-10	LONGITUDE 11-18	DATE 19-24 M D Y	TIME 25-28 Hr Min	KIND
1 / 2			0	09 12 90	10 30	

USGS-Q 30-34	BUREAU 35-37 AMIS	SAMPLE NUMBER 38-43	STREAM NAME 44-57	RELATIVE POINT 58
	300	231026 4		

TRIBUTARY TO:

FULL DESCRIPTION WHERE SAMPLE TAKEN monitor well W-6

ADDITIONAL LAB ANALYSES: VOA; semi-vol; Dissolved Me[tals]

attn: Dennis Newin: lo detection limit for metals

FIELD ANALYSES

Field	Code	Value
Type Sample	59-60	
Source Sample	61-62	
Reason Sampled	63-64	
Composite Sample — Proportional / Uniform	65	
Composite Sample — Temporal / Spatial	66	
Aliquots	67-68	
Flow — Estimated / Measured	69	
Condition (Above - 1, Below - 3, Normal - 2, No Flow - 4, Flood - 5)	80	
CARD (2)		
Stream Flow-CFS	(00061)	
Stream Flow-MGD	(50051)	
Pipe Flow-MGD	(50050)	
Gage Reading-Ft.	(00065)	
Temp (C)	(00010)	17.0
pH	(00400)	7.9
D.O.	(00300)	6.6
Hal — Cl (50060) / Br (71871) / I (71866)		
Spec Cond	(00094)	1050
Appearance	(46001)	
Odor	(01330)	

LAB ANALYSES

Chemist ______ Date Analyzed / /

Analysis	Code	Value
Color	(00080)	
Turb	(00070)	
pH (circled)	(00403)	
Spec. Cond (circled)	(00095)	
Alk (circled)	(00410)	
pH4	(00436)	
pH8 Hot / Cold	(70508) (00435)	
T.O.C.	(00680)	
C.O.D.	(00340)	
5-Day BOD	(00310)	
P T / TD	(00665) (00666)	
Al-Tot ug/l (circled)	(01105)	
Cd-Tot ug/l (circled)	(01027)	
Cr-Tot ug/l (circled)	(01034)	
Cu-Tot ug/l (circled)	(01042)	
Fe-Tot ug/l (circled)	(01045)	
Mn-Tot ug/l (circled)	(01055)	
Ni-Tot ug/l	(01067)	
Pb-Tot ug/l (circled)	(01051)	
Zn-Tot ug/l (circled)	(01092)	

Analysis	Code	Value
Total Solids	(00500)	
Susp. Solids	(00530)	
Set Solids	(00535)	
Total Diss Solids (circled)	(00515)	
NO_2N		
NO_3N	(00620)	
NH_3N	(00610)	
Kjel-N	(00625)	
Hardness	(00900)	
Ca (circled)	(00916)	
Mg	(00927)	
SO_4 (circled)	(00945)	
Cl (circled)	(00940)	
F	(00951)	
MBAS	(38260)	
Phenols ug/l Dr.	(46002)	
Phenols ug/l Ds	(32730)	
Cyanide	(00720)	
As	( )	
Na	( )	
	( )	

DER WASTE MANAGEMENT
OCT 23 1990
HARRISBURG REGION

CUSTODY LOG

How Shipped hand carry Date 9/13
Legal Seal No. 257809, 257810, 257813
Received by ______
Condition of Seal ______

ORIGINAL

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

PAGE:

LABORATORY REPORT
FOR SAMPLE NUMBER H9054150

RECEIVED 9/13/9
REPORTED 10/10/9

COLLECTOR TOM MILLER SWM3
COLLECTOR NO. 2310264
ESTABLISHMENT RAYMARK
CASE NAME CME-90
FACILITY W-6
ID CODE

SAMPLING DATE 9/12/90
SAMPLING TIME 10:30
STANDARD ANAL 200
TYPE CODE
WQN
STREAM CODE
RIVER MILE IND

SEAL INTACT SEAL NO(S) 257809 257810 257813

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC COND		1165.0000		G	HWS	9/13/90
00403	PH LAB		7.3000		G	HWS	9/14/90
00410	T ALK CACO3		554.0000	MG/L	G	HWS	9/17/90
00515	RES DISS/105		948.0000	MG/L	G	RLS	10/01/90
00915A	CA DISS MG/L		130.0000	MG/L	G	FAA	10/09/90
	COMMENT: 10 ANS RECHECKED BY ANALYST						
00916A	CA,TOTAL		117.0000	MG/L	G	FAA	10/09/90
00929A	NA,TOT MG/L		5.7600	MG/L	G	FAA	10/03/90
00930A	NA DISS		5.7600	MG/L	G	FAA	10/03/90
00940A	CHLORIDE		3.0000	MG/L	G	BBM	9/18/90
00945A	SO4 TOT		286.0000	MG/L	G	KLS	9/18/90
01000Y	AS DISS	<	4.0000	PPB	G	DES	9/18/90
01002Y	AS,TOTAL	<	4.0000	UG/L	G	DES	9/18/90
01025Y	CD DISS		2.0600	UG/L	G	CAG	9/21/90
01027Y	CD TOT UG/L		4.0200	UG/L	G	CAG	9/21/90
01030Y	CR DIS UG/L	<	4.0000	UG/L	G	CAG	9/21/90
01034Y	CR TOT UG/L	<	4.0000	UG/L	G	CAG	9/21/90
01040A	CU DIS UG/L		22.0000	UG/L	G	FAA	10/03/90
01042A	CU TOT UG/L		66.0000	UG/L	G	FAA	10/03/90
01045A	FE TOT		1120.0000	UG/L	G	FAA	10/03/90
01046A	FE DIS		46.0000	UG/L	G	FAA	10/03/90
01049Y	PB,DIS UG/L	<	4.0000	UG/L	G	BDM	9/25/90
01051Y	PB,TOTAL		10.7000	UG/L	G	BDM	9/25/90
01055A	MN TOTAL		5520.0000	UG/L	G	FAA	10/03/90
01056A	MN DIS UG/L		879.0000	UG/L	G	FAA	10/03/90
01090A	ZN,DIS UG/L		3690.0000	UG/L	G	FAA	10/03/90
01092A	ZN,TOT UG/L		5200.0000	UG/L	G	FAA	10/03/90
01105A	AL,TOTAL	<	135.0000	UG/L	G	FAA	10/03/90
01106A	AL, DISS	<	135.0000	UG/L	G	FAA	10/03/90

TOTAL NUMBER OF TESTS FOR THIS SAMPLE 28

7/83 Sub 4 1

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF LABORATORIES
SPECIAL ANALYSES REPORT

Date Received 9/13/90

LISHMENT	CASE	FACILITY	COLL NUMBER
Raymark	CME-90	W-6	231C

COUNTY	MUNICIPALITY	PROGRAM	COLL NAME/PHONE NUMBER	TYPE TR	STD ANALYSIS
Lancaster	Manheim	WM	T.J. Miller 657-4588		

CARD (3)	ID CODE (ALL CARDS) 4-16						LATITUDE 4-10	LONGITUDE 11-18	DATE 19-24			TIME 25-28		KIND
1/2	Cnty	Mun	T	Est	Case	Fac.		0	M	D	Y	Hr	Min	
									09	29	90	10	30	

USGS Q 30 34	BUREAU 35-37 AMIS	SAMPLE NUMBER 38-43	STREAM NAME 44-57	RELATIVE POINT
	300	231026 4		

FULL DESCRIPTION WHERE SAMPLE TAKEN: monitor well W-6

ADDITIONAL LAB ANALY

VOA

CUSTODY LOG

How Shipped hand carry Date 9/13

Legal Seal No. 257811, 257812

Received by:

Legal Seal Condition: Good 9/13/90 AS

QUALITATIVE REPORT

DO NOT WRITE BELOW THIS LINE

GC/MS - VOA - No detection

Detection limit ≈ 2 µg/l

QUANTITATIVE RESULTS

ANALYSIS:	UNITS:	ANALYSIS CODE	RESULTS (SHOW DECIMAL POINTS ON LI

ANALYST E. C. Huber SIGNATURE DATE 9/17/90

7/83 sub 5 1

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF LABORATORIES
SPECIAL ANALYSES REPORT

Date Received 9/13/90

ESTABLISHMENT	CASE	FACILITY	COLL NUMBER
Raymark	CME-90	W-6	2310

COUNTY	MUNICIPALITY	PROGRAM	COLL NAME/PHONE NUMBER	TYPE TR	STD ANALYSIS
Lancaster	Manheim	WM	T.J. Miller 657-4588		

CARD (3) 1 / 2	ID CODE (ALL CARDS) 4-16 Cnty / Mun / T / Est / Case / Fac.	LATITUDE 4-10	LONGITUDE 11-18	DATE 19-24 M D Y	TIME 25-28 Hr Min	KIND 2
			0	09 12 90	10 30	

USGS Q 30 34	BUREAU 35-37 AMIS	SAMPLE NUMBER 38-43	STREAM NAME 44-57	RELATIVE POINT 5
	300	231026 4		

FULL DESCRIPTION WHERE SAMPLE TAKEN: monitor well W-6

ADDITIONAL LAB ANALYSE: semi-vol

CUSTODY LOG

How Shipped hand carry Date 9/13

Legal Seal No. 257814

Received by:

Legal Seal Condition: Good 9/24/90

DER WASTE MANAGEMENT OCT 15 1990 HARRISBURG REGION

QUALITATIVE REPORT

DO NOT WRITE BELOW THIS LINE

GC/MS detected no semi-volatile organic contaminants. Reporting limit for target compounds is 5ug/l. except for Benzidine, 40 ug/l, and 3,3'-dichlorobenzidine 15 ug/l.

QUANTITATIVE RESULTS

ANALYSIS:	UNITS:	ANALYSIS CODE	RESULTS (SHOW DECIMAL POINTS ON LINE)

ANALYST [signature] SIGNATURE DATE 10/3/90

800 4 ICK 9/26/90

sub 2 - fix HNO3
sub 3 - non metals
sub 4 - VOA
sub 5 - semi-vol

BUREAU OF LABORATORIES

WATER OR WASTE QUALITY REPORT

ALL CHEMICAL ANALYSES EXPRESSED IN MG/L UNLESS OTHERWISE SPECIFIED

Date Received 021390

ESTABLISHMENT	CASE	FACILITY	COLL NUMBER
Rayonier	CME-90	W-3	2310

COUNTY	MUNICIPALITY	PROGRAM	COLL NAME	TYPE TR	STD ANALYSIS
Lancaster	Manheim	WM	T.J. Miller 657-4588		200

CARD (3) 1/2	ID CODE (ALL CARDS) 4-16 Cnty	Mun	T	Est	Case	Fac	LATITUDE 4-10	LONGITUDE 11-18	DATE 19-24 M	D	Y	TIME 25-28 Hr	Min	KIND
								0	09	12	90	13	00	

USGS-Q 30-34	BUREAU 35-37 AMIS	SAMPLE NUMBER 38-43	STREAM NAME 44-57	RELATIVE POINT 58
	300	231026 1		

TRIBUTARY TO:

ADDITIONAL LAB ANALYSE: VOA; semi-vol; Dissolved Me

FULL DESCRIPTION WHERE SAMPLE TAKEN: monitor well #3

2Attn: Dennis Nevin lo detection limit for metals

FIELD ANALYSES

Type Sample	59-60	
Source of Sample	61-62	
Reason Sampled	63-64	
Composite Sample: Proportional Uniform	65	
Composite Sample: Temporal Spatial	66	
Aliquots	67-68	
Flow: Estimated Measured	69	
Condition (Above - 1, Below - 3, Normal - 2, No Flow - 4, Flood - 5)	80	
→ CARD (2)		
Stream Flow-CFS (00061)		
Stream Flow-MGD (50051)		
Pl[illegible]w-MGD (50050)		
Gage Reading-FL (00065)		
Temp (C) (00010)		160
pH (00400)		60
D.O. (00300)		04
Hal: Cl (50060) / Br (71871) / I (71866)		
Spec Cond (00094)		2400
Appearance (46001)		
Color (01330)		

LAB ANALYSES

Chemist _____ Date Analyzed ___/___/___

Color	(00080)		Total Solids	(00500)	
Turb	(00070)		Susp. Solids	(00530)	
pH	(00403)		Set Solids	(00545)	
Spec. Cond	(00095)		Total Diss Solids	(00515)	
Alk	(00410)		NO_2N	(00615)	
pH4	(00436)		NO_3N	(00620)	
pH8 Hot / Cold	(70508) (00435)		NH_3N	(00610)	
T.O.C.	(00680)		Kjel-N	(00625)	
C.O.D.	(00340)				
5-Day BOD	(00310)		Hardness	(00900)	
P T	(00665)		Ca	(00916)	
P TD	(00666)		Mg	(00927)	
Al-Tot ug/l	(01105)		SO_4	(00945)	
Cd-Tot ug/l	(01027)		Cl	(00940)	
Cr-Tot ug/l	(01034)		F	(00951)	
Cu-Tot ug/l	(01042)		MBAS	(38260)	
Fe-Tot ug/l	(01045)		Phenols ug/l Dr. (46002) / Ds (32730)		
Mn-Tot ug/l	(01055)		Cyanide	(00720)	
Ni-Tot ug/l	(01067)		As	( )	
Pb-Tot ug/l	(01051)		Na	( )	
Zn-Tot ug/l	(01092)		___	( )	

DER WASTE MANAGEMENT OCT 12 1990 HARRISBURG

CUSTODY LOG

How Shipped hand carry Date 9/13

Legal Seal No. 257827-257829

Received by _____

Condition of Seal _____

ORIGINAL

LABORATORY REPORT
FOR SAMPLE NUMBER H9054147

RECEIVED 9/13/
REPORTED 10/01/

COLLECTOR TOM MILLER SWM3
COLLECTOR NO. 2310261
ESTABLISHMENT RAYMARK
CASE NAME CME-90
FACILITY W-3
ID CODE

SAMPLING DATE 9/12/90
SAMPLING TIME 13:00
STANDARD ANAL 200
TYPE CODE
WQN
STREAM CODE
RIVER MILE IND

SEAL INTACT SEAL NO(S) 257827 257829

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC COND		2750.0000		G	HWS	9/13/90
00403	PH LAB		7.6000		G	HWS	9/14/90
00410	T ALK CACO3		1678.0000	MG/L	G	HWS	9/17/90
00515	RES DISS/105		2232.0000	MG/L	G	RLS	10/01/90
00915A	CA DISS MG/L		166.0000	MG/L	G	REL	9/21/90
00916A	CA,TOTAL		166.0000	MG/L	G	REL	9/21/90
00929A	NA,TOT MG/L		188.0000	MG/L	G	REL	9/21/90
00930A	NA DISS		188.0000	MG/L	G	REL	9/21/90
00940A	CHLORIDE		31.0000	MG/L	G	BBM	9/18/90
00945A	SO4 TOT		510.0000	MG/L	G	KLS	9/18/90
01000Y	AS DISS	<	4.0000	PPB	G	DES	9/18/90
01002Y	AS,TOTAL	<	4.0000	UG/L	G	DES	9/18/90
01025Y	CD DISS	<	0.2000	UG/L	G	CAG	9/21/90
01027Y	CD TOT UG/L		0.4000	UG/L	G	CAG	9/21/90
01030Y	CR DIS UG/L	<	4.0000	UG/L	G	CAG	9/21/90
01034Y	CR TOT UG/L	<	4.0000	UG/L	G	CAG	9/21/90
01040A	CU DIS UG/L		28.0000	UG/L	G	REL	9/21/90
01042A	CU TOT UG/L		33.0000	UG/L	G	REL	9/21/90
01045A	FE TOT		15600.0000	UG/L	G	REL	9/21/90
01046A	FE DIS		8990.0000	UG/L	G	REL	9/21/90
01049Y	PB,DIS UG/L	<	4.0000	UG/L	G	BDM	9/25/90
01051Y	PB,TOTAL		11.2000	UG/L	G	BDM	9/25/90
01055A	MN TOTAL		2130.0000	UG/L	G	REL	9/21/90
01056A	MN DIS UG/L		2130.0000	UG/L	G	REL	9/21/90
01090A	ZN,DIS UG/L		69.0000	UG/L	G	REL	9/21/90
01092A	ZN,TOT UG/L		404.0000	UG/L	G	REL	9/21/90
01105A	AL,TOTAL	>	135.0000	UG/L	G	REL	9/21/90
01106A	AL, DISS	<	135.0000	UG/L	G	REL	9/21/90

TOTAL NUMBER OF TESTS FOR THIS SAMPLE 28

7/83

sub 4 1

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF LABORATORIES
SPECIAL ANALYSES REPORT

Date Received 9/13/90

ISHMENT	CASE	FACILITY	COLL NUMBER
Raymark	CME-90	W-3	2310

COUNTY	MUNICIPALITY	PROGRAM	COLL NAME/PHONE NUMBER	TYPE TR	STD ANALYSIS
Lancaster	Manheim	WM	T.J. Miller 657-4588		

CARD (3)	ID CODE (ALL CARDS) 4–16						LATITUDE 4–10	LONGITUDE 11–18	DATE 19–24			TIME 25–28		KIND
1 2	Cnty	Mun	T	Est	Case	Fac.			M	D	Y	Hr	Min	
								0	09	12	90	13	00	

USGS Q 30 34	BUREAU 35–37 AMIS	SAMPLE NUMBER 38–43	STREAM NAME 44–57	RELATIVE POINT
	300	231026 1		

FULL DESCRIPTION WHERE SAMPLE TAKEN: well W-3

ADDITIONAL LAB ANALYS: VOA

CUSTODY LOG

How Shipped hand carry Date 9/13/90

Legal Seal No. 257830 257832

Received by:

Legal Seal Condition: Good 9/13/90 dk

QUALITATIVE REPORT

DO NOT WRITE BELOW THIS LINE

Detection limit ≈ 2 ug/l

QUANTITATIVE RESULTS

ANALYSIS:	UNITS:	ANALYSIS CODE	RESULTS (SHOW DECIMAL POINTS ON LIN
Cis-1,2-Dichloroethene	ug/l		2.8
Benzene	"		2.3
Chlorobenzene	"		3.5
Vinyl chloride	"		4.2

ANALYST J.F. Thulis SIGNATURE DATE 9/18/90

7/83 sub 5 1

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF LABORATORIES
SPECIAL ANALYSES REPORT

Date Received 9/13/94

ESTABLISHMENT	CASE	FACILITY	COLL NUMBE
Raymark	CME-90	W-3	231C

COUNTY	MUNICIPALITY	PROGRAM	COLL NAME/PHONE NUMBER	TYPE TR	STD ANALYSI
Lancaster	Manheim	WM	T.J. Muller 657-4588		

CARD (3)	ID CODE (ALL CARDS) 4-16						LATITUDE 4-10	LONGITUDE 11-18	DATE 19-24			TIME 25-28		K
1/2	Cnty	Mun	T	Est	Case	Fac.		0	M	D	Y	Hr	Min	
									09	12	90	13	00	

USGS Q 30 34	BUREAU 35-37 AMIS	SAMPLE NUMBER 38-43	STREAM NAME 44-57	RELATIVE PO
	300	231026 1		

FULL DESCRIPTION WHERE SAMPLE TAKEN: W-3

ADDITIONAL LAB ANA

CUSTODY LOG

How Shipped hand carry Date 9/13/90

Legal Seal No. 257831

Received by:

Legal Seal Condition: Good 9/24/90 AA

semi-vol

QUALITATIVE REPORT

DER
WASTE MANAGEMENT
OCT 15 1990
HARRISBURG REGION

DO NOT WRITE BELOW THIS LINE

GC/MS semi-volatile analysis detected ~~[illegible]~~ itied hydrocarbon and C4 alkyl substituted phenol

Reporting limit for target compounds is 50µg/L except fo Benzidene, 400µg/L & 3,3'-dichlorobenzidine, 154µg/L.

QUANTITATIVE RESULTS

ANALYSIS:	UNITS:	ANALYSIS CODE	RESULTS (SHOW DECIMAL POINTS ON

ANALYST W. J. Robinson (SIGNATURE) DATE 10/3/90

800 mg/Cle 9/24/90 AA.

sub 2 - fix HNO3
sub 3 - non-metals
sub 4 - VOA
sub 5 - semi-vol

DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF LABORATORIES

WATER OR WASTE QUALITY REPORT

ALL CHEMICAL ANALYSES EXPRESSED IN MG/L UNLESS OTHERWISE SPECIFIED

LAB. Number 021390
Date Received

ESTABLISHMENT	CASE	FACILITY	COLL NUMBER
Raymack	CME-90	W-9	2310 200

COUNTY	MUNICIPALITY	PROGRAM	COLL NAME	TYPE TR	STD ANALYSIS
Lancaster	Manheim	WM	T.J. Miller 657-4588		200

CARD (3)	ID CODE (ALL CARDS) 4-16 Cnty	Mun	T	Est	Case	Fac	LATITUDE 4-10	LONGITUDE 11-18	DATE 19-24 M	D	Y	TIME 25-28 Hr	Min	KIND
1								0	09	12	90	13	30	

USGS-Q 30-34	BUREAU 35-37 AMIS	SAMPLE NUMBER 38-43	STREAM NAME 44-57	RELATIVE POINT 58
	300	231026 0		

TRIBUTARY TO:

ADDITIONAL LAB ANALYSIS

FULL DESCRIPTION WHERE SAMPLE TAKEN background well

VOA
semi-vol

attn: Dennis Nevin lo detection limit for metals

Dissolved Me

FIELD ANALYSES

Type Sample	59-60	
S of Sample	61-62	
Reason Sampled	63-64	
Composite Sample — Proportional Uniform	65	
Composite Sample — Temporal Spatial	66	
Aliquots	67-68	
Flow — Estimated Measured	69	
Condition (Above - 1, Below - 3, Normal - 2, No Flow - 4, Flood - 5)	80	
→ CARD (2)		
Stream Flow-CFS (00061)		
Stream Flow-MGD (50051)		
Flow-MGD (50050)		
Gage Reading-Ft (00065)		
Temp (C) (00010)	160	
pH (00400)	65	
D.O. (00300)	52	
Hal — Cl (50060)		
Hal — Br (71871)		
Hal — I (71866)		
Spec Cond (00094)		
Appearance (46001)		
Odor (01330)		

CUSTODY LOG

How Shipped hand carry Date 9/13
Legal Seal No. 257833-257835
Received by
Condition of Seal

LAB ANALYSES

Chemist

Color	(00080)	
Turb	(00070)	
pH	(00403)	
Spec. Cond	(00095)	
Alk	(00410)	
pH4	(00436)	
pH8 Hot / Cold	(70508) (00435)	
T.O.C.	(00680)	
C.O.D.	(00340)	
5-Day BOD	(00310)	
P T / TD	(00665) (00666)	
Al-Tot ug/l A	(01105)	
Cd-Tot ug/l Y	(01027)	
Cr-Tot ug/l Y	(01034)	
Cu-Tot ug/l A	(01042)	
Fe-Tot ug/l A	(01045)	
Mn-Tot ug/l A	(01055)	
Ni-Tot ug/l	(01067)	
Pb-Tot ug/l Y	(01051)	
Zn-Tot ug/l A	(01092)	

Date Analyzed DER/ /

WASTE MANAGEMENT
OCT 12 1990
HARRISBURG REGION

Total Solids	(00900)	
Susp. Solids	(00530)	
Set Solids	(00545)	
Total Diss Solids	(00515)	
NO_2N	(00615)	
NO_3N	(00620)	
NH_3N	(00610)	
Kjel-N	(00625)	
Hardness	(00900)	
Ca	(00916)	
Mg	(00927)	
SO_4	(00945)	
Cl	(00940)	
F	(00951)	
MBAS	(38260)	
Phenols ug/l — Dr.	(46002)	
Phenols ug/l — Ds	(32730)	
Cyanide	(00720)	
As Y	( )	
Na A	( )	
	( )	

ORIGINAL

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT
FOR SAMPLE NUMBER H9054146

RECEIVED 9/13/
REPORTED 10/01/

COLLECTOR TOM MILLER SWM3
COLLECTOR NO. 2310260
ESTABLISHMENT RAYMARK
CASE NAME CME-90
FACILITY N-9
ID CODE

SAMPLING DATE 9/12/90
SAMPLING TIME 13:30
STANDARD ANAL 200
TYPE CODE
HQN
STREAM CODE
RIVER MILE IND

SEAL INTACT SEAL NO(S) 257833 257835

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC COND		550.0000		G	HWS	9/13/90
00403	PH LAB		7.5000		G	HWS	9/14/90
00410	T ALK CACO3		216.0000	MG/L	G	HWS	9/17/90
00515	RES DISS/105		358.0000	MG/L	G	RLS	10/01/90
00915A	CA DISS MG/L		81.1000	MG/L	G	REL	9/21/90
00916A	CA,TOTAL		92.5000	MG/L	G	REL	9/21/90
00929A	NA,TOT MG/L		18.4000	MG/L	G	REL	9/21/90
00930A	NA DISS		16.4000	MG/L	G	REL	9/21/90
00940A	CHLORIDE		35.0000	MG/L	G	BBM	9/18/90
00945A	SO4 TOT		35.0000	MG/L	G	KLS	9/18/90
01000Y	AS DISS	<	4.0000	PPB	G	DES	9/18/90
01002Y	AS,TOTAL	<	4.0000	UG/L	G	DES	9/18/90
01025Y	CD DISS	<	0.2000	UG/L	G	CAG	9/21/90
01027Y	CD TOT UG/L	<	0.2000	UG/L	G	CAG	9/21/90
01030Y	CR DIS UG/L	<	4.0000	UG/L	G	CAG	9/21/90
01034Y	CR TOT UG/L		5.5000	UG/L	G	CAG	9/21/90
01040A	CU DIS UG/L		23.0000	UG/L	G	REL	9/21/90
01042A	CU TOT UG/L		78.0000	UG/L	G	REL	9/21/90
01045A	FE TOT		10800.0000	UG/L	G	REL	9/21/90
01046A	FE DIS		55.0000	UG/L	G	REL	9/21/90
01049Y	PB,DIS UG/L	<	4.0000	UG/L	G	BDM	9/25/90
01051Y	PB,TOTAL		16.9000	UG/L	G	BDM	9/25/90
01055A	MN TOTAL		135.0000	UG/L	G	REL	9/21/90
01056A	MN DIS UG/L	<	10.0000	UG/L	G	REL	9/21/90
01090A	ZN,DIS UG/L		12.0000	UG/L	G	REL	9/21/90
01092A	ZN,TOT UG/L		48.0000	UG/L	G	REL	9/21/90
01105A	AL,TOTAL		8610.0000	UG/L	G	REL	9/21/90
01106A	AL, DISS	<	135.0000	UG/L	G	REL	9/21/90

TOTAL NUMBER OF TESTS FOR THIS SAMPLE 25

7/83

sub 4 1

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF LABORATORIES
SPECIAL ANALYSES REPORT

Date Received 9/13/90

ESTABLISHMENT	CASE	FACILITY	COLL NUMBER
Raymark	CYME -90	W-9	2310

COUNTY	MUNICIPALITY	PROGRAM	COLL NAME/PHONE NUMBER	TYPE TR	STD ANALYSIS
Lancaster	Manheim	WM	T.J. Miller 657-4588		

CARD (3) 1 / 2	ID CODE (ALL CARDS) 4-16 Cnty / Mun / T / Est / Case / Fac.	LATITUDE 4-10	LONGITUDE 11-18	DATE 19-24 M D Y	TIME 25-28 Hr Min
			0	09 12 90	13 30

USGS Q 30 34	BUREAU 35-37 AMIS	SAMPLE NUMBER 38-43	STREAM NAME 44-57	RELATIVE POI
	3 0 0	2 3 1 0 2 6 0		

FULL DESCRIPTION WHERE SAMPLE TAKEN: W-9 background well

ADDITIONAL LAB ANAL

VOA

CUSTODY LOG

How Shipped hand carry Date 9/13

Legal Seal No. 257836, 257837

Received by: SNS 9-13-90

Legal Seal Condition:

QUALITATIVE REPORT

DO NOT WRITE BELOW THIS LINE

detection limit 3ppb - ITD (GC/MS)

QUANTITATIVE RESULTS

ANALYSIS:	UNITS:	ANALYSIS CODE	RESULTS (SHOW DECIMAL POINTS ON ...)
chloroform	ug/l		3.

ANALYST S. Lindsey
SIGNATURE

DATE 9-17-90

sub 5 1

DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF LABORATORIES
SPECIAL ANALYSES REPORT

Date Received 9/13/90

ESTABLISHMENT	CASE	FACILITY	COLL NUMBER
Raymark	CME-90	W-9	231

COUNTY	MUNICIPALITY	PROGRAM	COLL NAME/PHONE NUMBER	TYPE TR	STD ANALYSIS
Lancaster	Manheim	WM	T.J. Miller 657-4588		

CARD (3) 1 / 2	ID CODE (ALL CARDS) 4-16 Cnty / Mun / T / Est / Case / Fac.	LATITUDE 4-10	LONGITUDE 11-18	DATE 19-24 M D Y	TIME 25-28 Hr Min
			0	09 12 90	13 30

USGS Q 30 34	BUREAU 35-37 AMIS	SAMPLE NUMBER 38-43	STREAM NAME 44-57	RELATIVE P
	300	231 0260		

FULL DESCRIPTION WHERE SAMPLE TAKEN: W-9 background well

ADDITIONAL LAB AN
semi-vol

CUSTODY LOG.

How Shipped hand carry Date 9/13

Legal Seal No. 257838

Received by:

Legal Seal Condition: Good 9/19/90 A.A.

QUALITATIVE REPORT

DER
WASTE MANAGEMENT
OCT 2 1990
HARRISBURG REGION

DO NOT WRITE BELOW THIS LINE

GC/MS, semi-volatiles: No detect. on.

QUANTITATIVE RESULTS

ANALYSIS:	UNITS:	ANALYSIS CODE	RESULTS (SHOW DECIMAL POINTS ON

ANALYST W. T. Robinson
SIGNATURE

DATE 9/25/9.

900m1c10 9/19/90 A.A.

sub 3 - non metals
sub 4 - VOA
sub 5 - semi vol

WATER OR WASTE QUALITY REPORT

ALL CHEMICAL ANALYSES EXPRESSED IN MG/L UNLESS OTHERWISE SPECIFIED

Date Received 021390

ESTABLISHMENT	CASE	FACILITY	COLL NUMBER
Raymark	CME-90	W-10A	2310

COUNTY	MUNICIPALITY	PROGRAM	COLL NAME	TYPE TR	STD ANALYSIS
Lancaster	Manheim	WM	T.J. Miller 657-4588		200

CARD (3)	ID CODE (ALL CARDS) 4-16						LATITUDE 4-10	LONGITUDE 11-18	DATE 19-24			TIME 25-28		KIND 29
1/2	Cnty	Mun	T	Est	Case	Fac			M	D	Y	Hr	Min	
								0	09	12	90	11	30	

USGS-Q 30-34	BUREAU 35-37 AMIS	SAMPLE NUMBER 38-43	STREAM NAME 44-57	RELATIVE POINT 58
	300	231026 2		

TRIBUTARY TO:

FULL DESCRIPTION WHERE SAMPLE TAKEN monitor well 10A

ADDITIONAL LAB ANALYSES

VOA
semi-vol

attn: Dennis Nevin lo detection limit for metals — Dissolved Metal

FIELD ANALYSES

Type Sample 59-60

Source of Sample 61-62

Reason Sampled 63-64

Composite Sample — Proportional Uniform 65; Temporal Spatial 66

Aliquots 67-68

Estimated Measured 69

Condition (Above - 1, Below - 3, Normal - 2, No Flow - 4, Flood - 5) 80

CARD (2)

Stream Flow-CFS	(00061)	
Stream Flow-MGD	(50051)	
Pipe Flow-MGD	(50050)	
Gage Reading-Ft	(00065)	
Temp (C)	(00010)	18.0
	(00400)	6.0
D.O.	(00300)	12
Hal — Cl (50060) / Br (71871) / I (71866)		
Spec Cond	(00094)	1620
Appearance	(46001)	
	(01330)	

LAB ANALYSES

Chemist _____ Date Analyzed ___/___/___

Color	(00080)		Total Solids	(00500)	
Turb	(00070)		Susp. Solids	(00530)	
pH	(00403)		Set Solids	(00545)	
Spec. Cond	(00095)		Total Diss Solids	(00515)	
Alk	(00410)		NO_2N	(00615)	
pH4	(00436)		NO_3N	(00620)	
pH8 Hot / Cold	(70508) / (00435)		NH_3N	(00610)	
T.O.C.	(00680)		Kjel-N	(00625)	
C.O.D.	(00340)		Hardness	(00900)	
5-Day BOD	(00310)		Ca	(00916)	
P T / TD	(00665) / (00666)		Mg	(00927)	
Al-Tot ug/l	(01105)		SO_4	(00945)	
Cd-Tot ug/l	(01027)		Cl	(00940)	
Cr-Tot ug/l	(01034)		F	(00951)	
Cu-Tot ug/l	(01042)		MBAS	(38260)	
Fe-Tot ug/l	(01045)		Phenols ug/l Dr. (46002) / Ds (32730)		
Mn-Tot ug/l	(01055)		Cyanide	(00720)	
Ni-Tot ug/l	(01067)		As	( )	
Pb-Tot ug/l	(01051)		Na	( )	
Zn-Tot ug/l	(01092)			( )	

DEP
WASTE MANAGEMENT
OCT 12 1990
HARRISBURG REGION

CUSTODY LOG

How Shipped hand carry Date 9/13

Legal Seal No. 257815 - 257817

Received by _____

Condition of Seal _____

ORIGINAL

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT
FOR SAMPLE NUMBER H9054148

RECEIVED 9/13/
REPORTED 10/01/

COLLECTOR TOM MILLER SWM3
COLLECTOR NO. 2310262
ESTABLISHMENT RAYMARK
CASE NAME CME-90
FACILITY W-10A
ID CODE

SAMPLING DATE 9/12/90
SAMPLING TIME 11:30
STANDARD ANAL 200
TYPE CODE
WQN
STREAM CODE
RIVER MILE IND

SEAL INTACT SEAL NO(S) 257815 257816 257817

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC COND		1560.0000		G	HWS	9/13/90
00403	PH LAB		7.1000		G	HWS	9/14/90
00410	T ALK CACO3		558.0000	MG/L	G	HWS	9/17/90
00515	RES DISS/105		1418.0000	MG/L	G	RLS	10/01/90
00915A	CA DISS MG/L		170.0000	MG/L	G	MJA	9/24/90
00916A	CA,TOTAL		170.0000	MG/L	G	MJA	9/24/90
00929A	NA,TOT MG/L		16.0000	MG/L	G	FAA	9/28/90
00930A	NA DISS		16.0000	MG/L	G	FAA	9/28/90
00940A	CHLORIDE		7.0000	MG/L	G	BBM	9/18/90
00945A	SO4 TOT		646.0000	MG/L	G	KLS	9/19/90
01000Y	AS DISS	<	4.0000	PPB	G	DES	9/18/90
01002Y	AS,TOTAL		12.6000	UG/L	G	DES	9/18/90
01025Y	CD DISS		0.2700	UG/L	G	CAG	9/21/90
01027Y	CD TOT UG/L		0.3400	UG/L	G	CAG	9/21/90
01030Y	CR DIS UG/L	<	4.0000	UG/L	G	CAG	9/21/90
01034Y	CR TOT UG/L	<	4.0000	UG/L	G	CAG	9/21/90
01040A	CU DIS UG/L		50.0000	UG/L	G	FAA	9/28/90
01042A	CU TOT UG/L		150.0000	UG/L	G	FAA	9/28/90
01045A	FE TOT		11800.0000	UG/L	G	MJA	9/24/90
01046A	FE DIS		3420.0000	UG/L	G	FAA	9/28/90
01049Y	PB,DIS UG/L	<	4.0000	UG/L	G	BDM	9/25/90
01051Y	PB,TOTAL		212.0000	UG/L	G	BDM	9/28/90
01055A	MN TOTAL		2500.0000	UG/L	G	FAA	9/28/90
01056A	MN DIS UG/L		2400.0000	UG/L	G	FAA	9/28/90
01090A	ZN,DIS UG/L		5770.0000	UG/L	G	FAA	9/28/90
01092A	ZN,TOT UG/L		5770.0000	UG/L	G	FAA	9/28/90
01105A	AL,TOTAL		2100.0000	UG/L	G	FAA	9/28/90
01106A	AL, DISS	<	135.0000	UG/L	G	FAA	9/28/90

TOTAL NUMBER OF TESTS FOR THIS SAMPLE 28

7/83

sub 4, 1

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF LABORATORIES
SPECIAL ANALYSES REPORT

Date Received 9/13/90

ESTABLISHMENT	CASE	FACILITY	COLL NUMBE
Raymark	CME-90	W-10A	231

COUNTY	MUNICIPALITY	PROGRAM	COLL NAME/PHONE NUMBER	TYPE TR	STD ANALYSI
Lancaster	Manheim	WM	T.J. Miller 657-4588		

CARD (3) 1/2	ID CODE (ALL CARDS) 4–16 Cnty	Mun	T	Est	Case	Fac.	LATITUDE 4–10	LONGITUDE 11–18	DATE 19–24 M	D	Y	TIME 25–28 Hr	Min	K
								0	09	12	90	11	30	

USGS Q 30 34	BUREAU 35–37 AMIS	SAMPLE NUMBER 38–43	STREAM NAME 44–57	RELATIVE PO
	300	231026 2		

FULL DESCRIPTION WHERE SAMPLE TAKEN: monitor well 10A (shallow)

ADDITIONAL LAB ANA

VOA

CUSTODY LOG

How Shipped hand carry Date 9/13

Legal Seal No. 257819 (257819)

Received by:

Legal Seal Condition: Good 9/17/90 A.L.

QUALITATIVE REPORT

DO NOT WRITE BELOW THIS LINE

GC/MS - VOA - NO detection

Detection limit ≈ 2 ug/l

QUANTITATIVE RESULTS

ANALYSIS:	UNITS:	ANALYSIS CODE	RESULTS (SHOW DECIMAL POINTS ON

ANALYST [signature] SIGNATURE DATE 9/18/90

7/83

sub s 1

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF LABORATORIES
SPECIAL ANALYSES REPORT

Date Received 9/13/90

LISHMENT	CASE	FACILITY	COLL NUMBER
Raymark	CME-90	W-10A	2310

COUNTY	MUNICIPALITY	PROGRAM	COLL NAME/PHONE NUMBER	TYPE TR	STD ANALYSIS
Lancaster	Manheim	WM	T.J. Miller 657-4588		

CARD (3)	ID CODE (ALL CARDS) 4–16						LATITUDE 4–10	LONGITUDE 11–18	DATE 19–24			TIME 25–28		KIND
1/2	Cnty	Mun	T	Est	Case	Fac.		0	M	D	Y	Hr	Min	
									09	12	90	11	30	

USGS Q 30 34	BUREAU 35–37 AMIS	SAMPLE NUMBER 38–43	STREAM NAME 44–57	RELATIVE POINT
	309	231026		

FULL DESCRIPTION WHERE SAMPLE TAKEN: monitor well W-10A (shallow)

ADDITIONAL LAB ANALY

semi-vol

DER

CUSTODY LOG

How Shipped hand carry Date 9/13

Legal Seal No. 257820

Received by:

Legal Seal Condition: Good 9/24/90 KY.

QUALITATIVE REPORT

WASTE MANAGEMENT

DO NOT WRITE BELOW THIS LINE

OCT 15 1990

HARRISBURG REGION

GC/MS detected no semi-volatile organic contamina
Reporting limit for target compounds is 5 ug/L exce
for Benzidine, 40 ug/L, and 3,3'-dichlorobenzidine, 15ug

QUANTITATIVE RESULTS

ANALYSIS:	UNITS:	ANALYSIS CODE	RESULTS (SHOW DECIMAL POINTS ON LI

ANALYST W. T. Robinson
SIGNATURE

DATE 10/3/90

800ml Cle 9/24/90 KY

sub 2 - TIA HNO3
sub 3 - non metals
sub 4 - VOA
sub 5 - semi-vol

WATER OR WASTE QUALITY REPORT

ALL CHEMICAL ANALYSES EXPRESSED IN MG/L UNLESS OTHERWISE SPECIFIED

Date Received U31390

BLISHMENT	CASE	FACILITY	COLL NUMBER
Raymark	CME-90	W-10B	2310

COUNTY	MUNICIPALITY	PROGRAM	COLL NAME	TYPE TR	STD ANALYSIS
Lancaster	Manheim	WM	T.J.-Miller 657-4588		200

CARD (3)	ID CODE (ALL CARDS) 4-16						LATITUDE 4-10	LONGITUDE 11-18	DATE 19-24			TIME 25-28		KIND 2
1 / 2	Cnty	Mun	T	Est	Case	Fac		0	M	D	Y	Hr	Min	
									09	29	90	12	30	

USGS-Q 30-34	BUREAU 35-37 AMIS	SAMPLE NUMBER 38-43	STREAM NAME 44-57	RELATIVE POINT 58
	300	231026 3		

TRIBUTARY TO:

ADDITIONAL LAB ANALYSE: VOA; semi-vol

FULL DESCRIPTION WHERE SAMPLE TAKEN: monitor well 10B

attn: Dennis Nevin — lo detection limit for metals — Dissolved Met

FIELD ANALYSES

Type Sample	59-60	
Source of Sample	61-62	
Reason Sampled	63-64	
Composite Sample: Proportional Uniform	65	
Composite Sample: Temporal Spatial	66	
Aliquots	67-68	
Flow: Estimated Measured	69	
Condition (Above - 1, Below - 3, Normal - 2, No Flow - 4, Flood - 5)	80	
→ CARD (2)		

Stream Flow-CFS	(00061)	
Stream Flow-MGD	(50051)	
Pipeflow-MGD	(50050)	
Gage Reading-Ft	(00065)	
Temp (C)	(00010)	17.0
	(00400)	6.1
D.O.	(00300)	2.8
Hal: Cl (50060) / Br (71871) / I (71866)		
Spec Cond	(00094)	1100
Appearance	(46001)	
Odor	(01330)	

LAB ANALYSES

Chemist _____ Date Analyzed ___/___/___

Color	(00080)	
Turb	(00070)	
pH	(00403)	
Spec. Cond	(00095)	
Alk	(00410)	
pH4	(00436)	
pH8 Hot / Cold	(70508) (00435)	
T.O.C.	(00680)	
C.O.D.	(00340)	
5-Day BOD	(00310)	
P T	(00665)	
P TD	(00666)	
Al-Tot ug/l	(01105)	
Cd-Tot ug/l	(01027)	
Cr-Tot ug/l	(01034)	
Cu-Tot ug/l	(01042)	
Fe-Tot ug/l	(01045)	
Mn-Tot ug/l	(01055)	
Ni-Tot ug/l	(01067)	
Pb-Tot ug/l	(01051)	
Zn-Tot ug/l	(01092)	

Total Solids	(00500)	
Susp. Solids	(00530)	
Set Solids	(00545)	
Total Diss Solids	(00515)	
NO_3N	(00615)	
NO_3N	(00620)	
NH_3N	(00610)	
Kjel-N	(00625)	
Hardness	(00900)	
Ca	(00916)	
Mg	(00927)	
SO_4	(00945)	
Cl	(00940)	
F	(00951)	
MBAS	(38260)	
Phenols ug/l: Dr. (46002) / Ds (32730)		
Cyanide	(00720)	
As	(_____)	
Na	(_____)	
_____	(_____)	

DER WASTE MANAGEMENT OCT 12 1990 HARRISBURG REGION

CUSTODY LOG

How Shipped hand carry Date 9/13

Legal Seal No. 257821-257823

Received by _____

Condition of Seal _____

ORIGINAL

DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT
FOR SAMPLE NUMBER H9054149

RECEIVED 9/1
REPORTED 10/0

COLLECTOR TOM MILLER SWM3
COLLECTOR NO. 2310263
ESTABLISHMENT RAYMARK
CASE NAME CME-90
FACILITY W-108
ID CODE

SAMPLING DATE 9/12/90
SAMPLING TIME 12:30
STANDARD ANAL 200
TYPE CODE
WQN
STREAM CODE
RIVER MILE IND

SEAL INTACT SEAL NO(S) 257821 257822 257823

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DAT
00095	SPEC COND		1200.0000		G	HWS	9/13/90
00403	PH LAB		7.4000		G	HWS	9/14/90
00410	T ALK CACO3		582.0000	MG/L	G	HWS	9/17/90
00515	RES DISS/105		876.0000	MG/L	G	RLS	10/01/90
00915A	CA DISS MG/L		124.0000	MG/L	G	FAA	10/03/90
00916A	CA,TOTAL		132.0000	MG/L	G	FAA	10/03/90
00929A	NA,TOT MG/L		38.0000	MG/L	G	FAA	10/03/90
00930A	NA DISS		38.0000	MG/L	G	FAA	10/03/90
00940A	CHLORIDE		10.0000	MG/L	G	BBM	9/18/90
00945A	SO4 TOT		211.0000	MG/L	G	KLS	9/18/90
01000Y	AS DISS	<	4.0000	PPB	G	DES	9/18/90
01002Y	AS,TOTAL	<	4.0000	UG/L	G	DES	9/18/90
01025Y	CD DISS	<	0.2000	UG/L	G	CAG	9/21/90
01027Y	CD TOT UG/L		0.4600	UG/L	G	CAG	9/21/90
01030Y	CR DIS UG/L	<	4.0000	UG/L	G	CAG	9/21/90
01034Y	CR TOT UG/L	<	4.0000	UG/L	G	CAG	9/21/90
01040A	CU DIS UG/L		19.0000	UG/L	G	FAA	10/03/90
01042A	CU TOT UG/L		142.0000	UG/L	G	FAA	10/03/90
01045A	FE TOT		5510.0000	UG/L	G	FAA	10/03/90
01046A	FE DIS		109.0000	UG/L	G	FAA	10/03/90
01049Y	PB,DIS UG/L	<	4.0000	UG/L	G	BDM	9/25/90
01051Y	PB,TOTAL		80.0000	UG/L	G	BDM	9/25/90
01055A	MN TOTAL		346.0000	UG/L	G	FAA	10/03/90
01056A	MN DIS UG/L		306.0000	UG/L	G	FAA	10/03/90
01090A	ZN,DIS UG/L		916.0000	UG/L	G	FAA	10/03/90
01092A	ZN,TOT UG/L		3220.0000	UG/L	G	FAA	10/03/90
01105A	AL,TOTAL		138.0000	UG/L	G	FAA	10/03/90
01106A	AL, DISS	<	135.0000	UG/L	G	FAA	10/03/90

TOTAL NUMBER OF TESTS FOR THIS SAMPLE 28

7/83 Sub 4 1

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF LABORATORIES
SPECIAL ANALYSES REPORT

Date Received 9/13/90

ESTABLISHMENT	CASE	FACILITY	COLL NUMBER
Raymark	CME-90	W-10B	231

COUNTY	MUNICIPALITY	PROGRAM	COLL NAME/PHONE NUMBER	TYPE TR	STD ANALYSIS
Lancaster	Manheim	WM	T.J. Miller 657-4588		

CARD (3) 1 / 2	ID CODE (ALL CARDS) 4-16 Cnty Mun T Est Case Fac.	LATITUDE 4-10	LONGITUDE 11-18	DATE 19-24 M D Y	TIME 25-28 Hr Min	KIND
			0	09 12 90	12 30	

USGS Q 30 34	BUREAU 35-37 AMIS	SAMPLE NUMBER 38-43	STREAM NAME 44-57	RELATIVE POINT
	300	2310263		

FULL DESCRIPTION WHERE SAMPLE TAKEN: monitor well 10 B (deep)

ADDITIONAL LAB ANALY
VOA

CUSTODY LOG

How Shipped hand carry Date 9/13

Legal Seal No. 257824, 257825

Received by:

Legal Seal Condition: Good 9/17/90 14

QUALITATIVE REPORT

DO NOT WRITE BELOW THIS LINE

GC/MS - VOA - NO detection

Detection limit ≈ 2 ug/l

QUANTITATIVE RESULTS

ANALYSIS:	UNITS:	ANALYSIS CODE	RESULTS (SHOW DECIMAL POINTS ON LI

ANALYST [signature] SIGNATURE DATE 9/18/90

7783

sub 5 1

DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF LABORATORIES
SPECIAL ANALYSES REPORT

Date Received 9/13/94

ABLISHMENT	CASE	FACILITY	COLL NUMBE
Raymark	CME-90	W-10 B	231C

COUNTY	MUNICIPALITY	PROGRAM	COLL NAME/PHONE NUMBER	TYPE TR	STD ANALYSIS
Lancaster	Manheim	WM	T.J. Miller 657-4588		

CARD (3) 1/2	ID CODE (ALL CARDS) 4-16 Cnty	Mun	T	Est	Case	Fac.	LATITUDE 4-10	LONGITUDE 11-18	DATE 19-24 M	D	Y	TIME 25-28 Hr	Min	KI
								0	09	12	90	12	30	

USGS Q 30 34	BUREAU 35-37 AMIS	SAMPLE NUMBER 38-43	STREAM NAME 44-57	RELATIVE POI
	300	231026 3		

FULL DESCRIPTION WHERE SAMPLE TAKEN: monitor well 10 B (deep)

ADDITIONAL LAB ANAI

semi-vol

CUSTODY LOG

How Shipped hand carry Date 9/13

Legal Seal No. 257826

Received by:

Legal Seal Condition: good 9/24/90 AA.

DER
WASTE MANAGEME
OCT 15 1990
HARRISBURG REGION

QUALITATIVE REPORT

DO NOT WRITE BELOW THIS LINE

GC/MS detected no semi-volatile organic contaminants. Reporting limit for target compounds is 5ug/L except for Benzidine, 40 ug/L, and 3,3'-dichlorobenzidine 15ug/L.

QUANTITATIVE RESULTS

ANALYSIS:	UNITS:	ANALYSIS CODE	RESULTS (SHOW DECIMAL POINTS ON

ANALYST W. T. Robinson SIGNATURE DATE 10/3/90

800 ml Cle 9/24/90 AA

sub 1 - fix HNO3
sub 2 - VOA
sub 3 - semi-vol

DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF LABORATORIES

WATER OR WASTE QUALITY REPORT

ALL CHEMICAL ANALYSES EXPRESSED IN MG/L UNLESS OTHERWISE SPECIFIED

LAB. Number 0313

W-13 (blank)
need: ~~VOA~~ semi-vol
COMPLETE

ESTABLISHMENT	CASE	COLL NUMBER
Raymark	CME-90	231

COUNTY	MUNICIPALITY	PROGRAM	COLL NAME	STD ANALYSIS
Lancaster	Manheim	WM	T.J. Mil	20

CARD (3) 1 2 — ID CODE (ALL CARDS) 4-16: Cnty, Mun, T, Est, Case, Fac — LATITUDE 4-10 — LONGITUDE — 0 — 091290 — TIME 25-28 Min

USGS-Q 30-34	BUREAU 35-37 AMIS	SAMPLE NUMBER 38-43	STREAM NAME 44-57	RELATIVE POINT
	300	231 0265		

TRIBUTARY TO:

FULL DESCRIPTION WHERE SAMPLE TAKEN: blank prepared from laboratory DI water + HNO3 preservative

attn: Dennis Nevin - lo detection limit for metals

ADDITIONAL LAB ANALYSES: VOA; semi-vol

FIELD ANALYSES

Type Sample	59-60	
Source of Sample	61-62	
Reason Sampled	63-64	
Composite Sample — Proportional / Uniform	65	
Composite Sample — Temporal / Spatial	66	
Aliquots	67-68	
Flow — Estimated / Measured	69	
Condition — Above - 1, Below - 3, Normal - 2, No Flow - 4, Flood - 5	80	
CARD (2)		
Stream Flow-CFS	(00061)	
Stream Flow-MGD	(50051)	
Waste Flow-MGD	(50050)	
Gage Reading-Ft	(00065)	
Temp (C)	(00010)	
pH	(00400)	
D.O.	(00300)	
Hal — Cl (50060), Br (71871), I (71866)		
Spec Cond	(00094)	
Appearance	(46001)	
Odor	(01330)	

CUSTODY LOG

How Shipped: hand carry Date 9/13
Legal Seal No. 257808
Received by
Condition of Seal

LAB ANALYSES

Chemist ______ Date Analyzed / /

Color	(00080)	
Turb	(00070)	
pH	(00403)	
Spec. Cond	(00095)	
Alk	(00410)	
pH4	(00436)	
pH8 Hot / Cold	(70508) (00435)	
T.O.C.	(00680)	
C.O.D.	(00340)	
5-Day BOD	(00310)	
P T	(00665)	
P TD	(00666)	
Al-Tot ug/l	(01105)	
Cd-Tot ug/l	(01027)	
Cr-Tot ug/l	(01034)	
Cu-Tot ug/l	(01042)	
Fe-Tot ug/l	(01045)	
Mn-Tot ug/l	(01055)	
Ni-Tot ug/l	(01067)	
Pb-Tot ug/l	(01051)	
Zn-Tot ug/l	(01092)	

Total Solids	(00500)	
Susp. Solids	(00530)	
Set Solids	(00545)	
Total Diss Solids	(00515)	
NO_2N	(00615)	
NO_3N	(00620)	
NH_3N	(00610)	
Kjel-N	(00625)	
Hardness	(00900)	
Ca	(00916)	
Mg	(00927)	
SO_4	(00945)	
Cl	(00940)	
F	(00951)	
MBAS	(38260)	
Phenols ug/l Dr.	(46002)	
Phenols ug/l Ds	(32730)	
Cyanide	(00720)	
As	( )	
Na	( )	
	( )	

DER
WASTE MANAGEMENT
OCT 2 1990
HARRISBURG REGION

ORIGINAL

LABORATORY REPORT RECEIVED 9/1
FOR SAMPLE NUMBER H9054151 REPORTED 9/2

COLLECTOR	TOM MILLER SWM3	SAMPLING DATE	9/12/90
COLLECTOR NO.	2310265	SAMPLING TIME	
ESTABLISHMENT	RAYMARK	STANDARD ANAL	200
CASE NAME	CME-90	TYPE CODE	
FACILITY	W-13 BLANK	WQN	
ID CODE		STREAM CODE	
		RIVER MILE IND	

SEAL INTACT SEAL NO(S) 257808

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DAT
00929A	NA,TOT MG/L		0.1480	MG/L	G	REL	9/27/90
01002Y	AS,TOTAL	<	4.0000	UG/L	G	DES	9/18/90
01027Y	CD TOT UG/L	<	0.2000	UG/L	G	CAG	9/21/90
01034Y	CR TOT UG/L	<	4.0000	UG/L	G	CAG	9/21/90
01042A	CU TOT UG/L		22.0000	UG/L	G	REL	9/27/90
01045A	FE TOT		69.0000	UG/L	G	REL	9/27/90
01051Y	PB,TOTAL	<	4.0000	UG/L	G	BDM	9/25/90
01055A	MN TOTAL		26.0000	UG/L	G	REL	9/27/90
01092A	ZN,TOT UG/L		29.0000	UG/L	G	REL	9/27/90
01105A	AL,TOTAL	<	135.0000	UG/L	G	REL	9/27/90

TOTAL NUMBER OF TESTS FOR THIS SAMPLE 10

7/83 Sub 2 1

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF LABORATORIES
SPECIAL ANALYSES REPORT

Date Received 9/13/90

LISHMENT	CASE	FACILITY	COLL NUMBER
Raymark	CME-90	W-13 (blank)	231C

COUNTY	MUNICIPALITY	PROGRAM	COLL NAME/PHONE NUMBER	TYPE TR	STD ANALYSIS
Lancaster	Manheim	WM	T.J. Miller 657-4588		

CARD (3)	ID CODE (ALL CARDS) 4–16						LATITUDE 4–10	LONGITUDE 11–18	DATE 19–24			TIME 25–28		KIN
1/2	Cnty	Mun	T	Est	Case	Fac.		0	M	D	Y	Hr	Min	
									09	12	90			

USGS Q 30 34	BUREAU 35–37 AMIS	SAMPLE NUMBER 38–43	STREAM NAME 44–57	RELATIVE POIN
	300	231026 5		

FULL DESCRIPTION WHERE SAMPLE TAKEN: laboratory prepared DI water

ADDITIONAL LAB ANALY: VOA

CUSTODY LOG

How Shipped hand carry Date 9/13/90

Legal Seal No. 257806, (257807 SUR 9-13-90)

Received by:

Legal Seal Condition:

QUALITATIVE REPORT

DO NOT WRITE BELOW THIS LINE

GC/MS ITD – VOA
no detection

detection limit – 3ppb

QUANTITATIVE RESULTS

ANALYSIS:	UNITS:	ANALYSIS CODE	RESULTS (SHOW DECIMAL POINTS ON LI

ANALYST S Lindner SIGNATURE DATE 9-17-90

7/83

sub 3 1

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF LABORATORIES
SPECIAL ANALYSES REPORT

Date Received 9/13/94

ILISHMENT	CASE	FACILITY	COLL NUMBER
Raymark	CME-90	W-13 (blank)	2310

COUNTY	MUNICIPALITY	PROGRAM	COLL NAME/PHONE NUMBER	TYPE TR	STD ANALYSIS
Lancaster	Manheim	WM	T.J. Miller 657-4588		

CARD (3) 1/2	ID CODE (ALL CARDS) 4–16 Cnty	Mun	T	Est	Case	Fac.	LATITUDE 4–10	LONGITUDE 11–18	DATE 19–24 M	D	Y	TIME 25–28 Hr	Min	KIN
								0	09	12	90			

USGS Q 30 34	BUREAU 35–37 AMIS	SAMPLE NUMBER 38–43	STREAM NAME 44–57	RELATIVE POIN
	300	231026 5		

FULL DESCRIPTION WHERE SAMPLE TAKEN: laboratory prepared DI water

ADDITIONAL LAB ANAL: Semi-vol

CUSTODY LOG

How Shipped: handcarry Date: 9/13/90

Legal Seal No.: 257805

Received by:

Legal Seal Condition: Good 9/24/90 dtk.

DER
WASTE MANAGEMENT
OCT 15 1990
HARRISBURG REGION

QUALITATIVE REPORT

DO NOT WRITE BELOW THIS LINE

GC/MS detected no semi-volatile organic contaminant
Reporting limit for target compounds is 5 ug/L, excep
for Benzidine, 40 ug/L, and 3,3'-dichlorobenzidine, 15 u

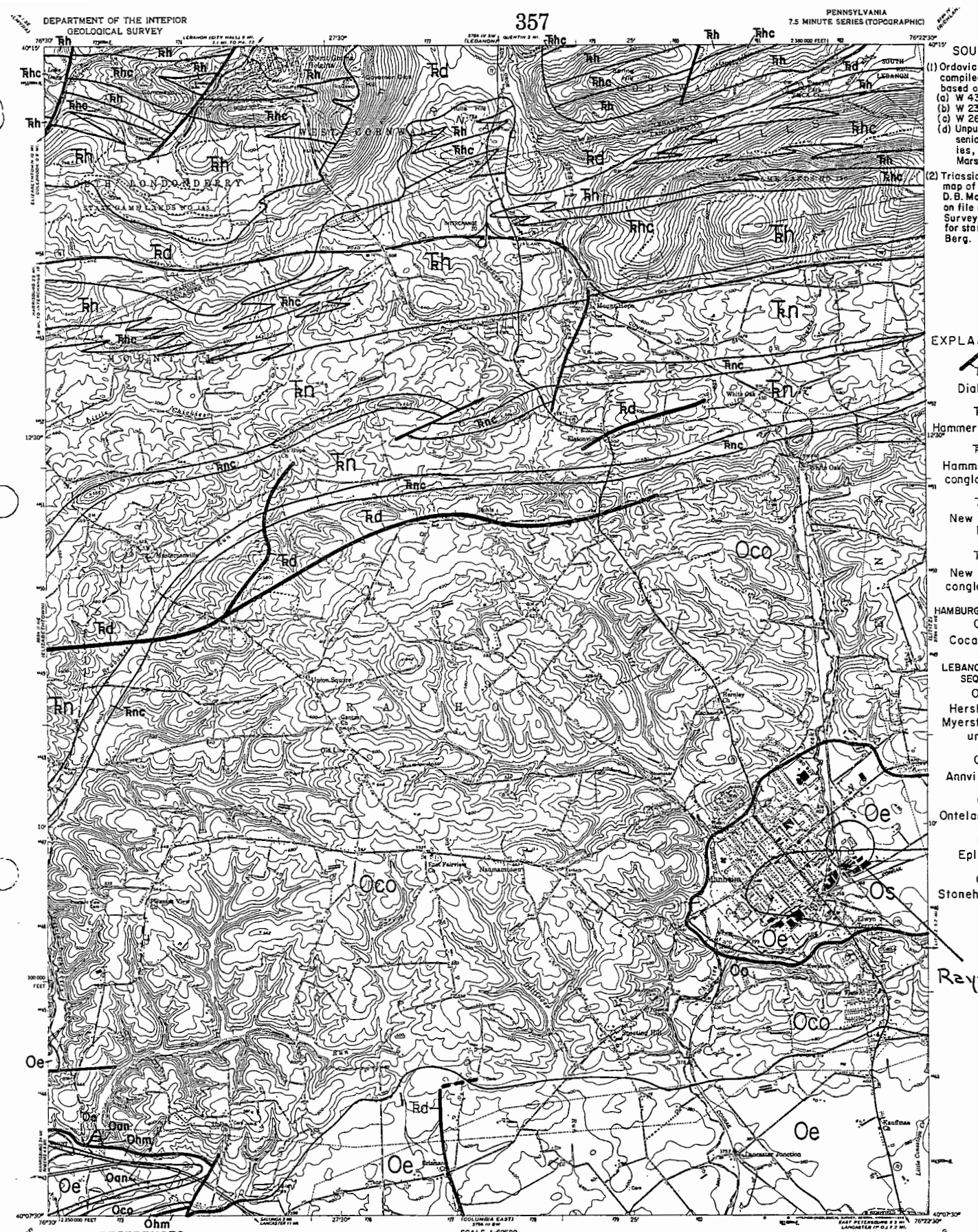
QUANTITATIVE RESULTS

ANALYSIS:	UNITS:	ANALYSIS CODE	RESULTS (SHOW DECIMAL POINTS ON L

ANALYST W. F. Robinson (SIGNATURE) DATE 10/3/90

Doom (Cle 9/26/90 dtk.

FIGURES



REFERENCES

Johnston, H. E. (1966), *Hydrology of the New Oxford Formation in Lancaster County, Pennsylvania*, Pennsylvania Geological Survey, 4th ser., Water Resource Report 23, 80 p.

Meisler, Harold, and Becher, A. E. (1971), *Hydrology of the carbonate rocks of the Lancaster 15' quadrangle, south-central Pennsylvania*, Pennsylvania Geological Survey, 4th ser., Water Resource Report 28, 149 p.

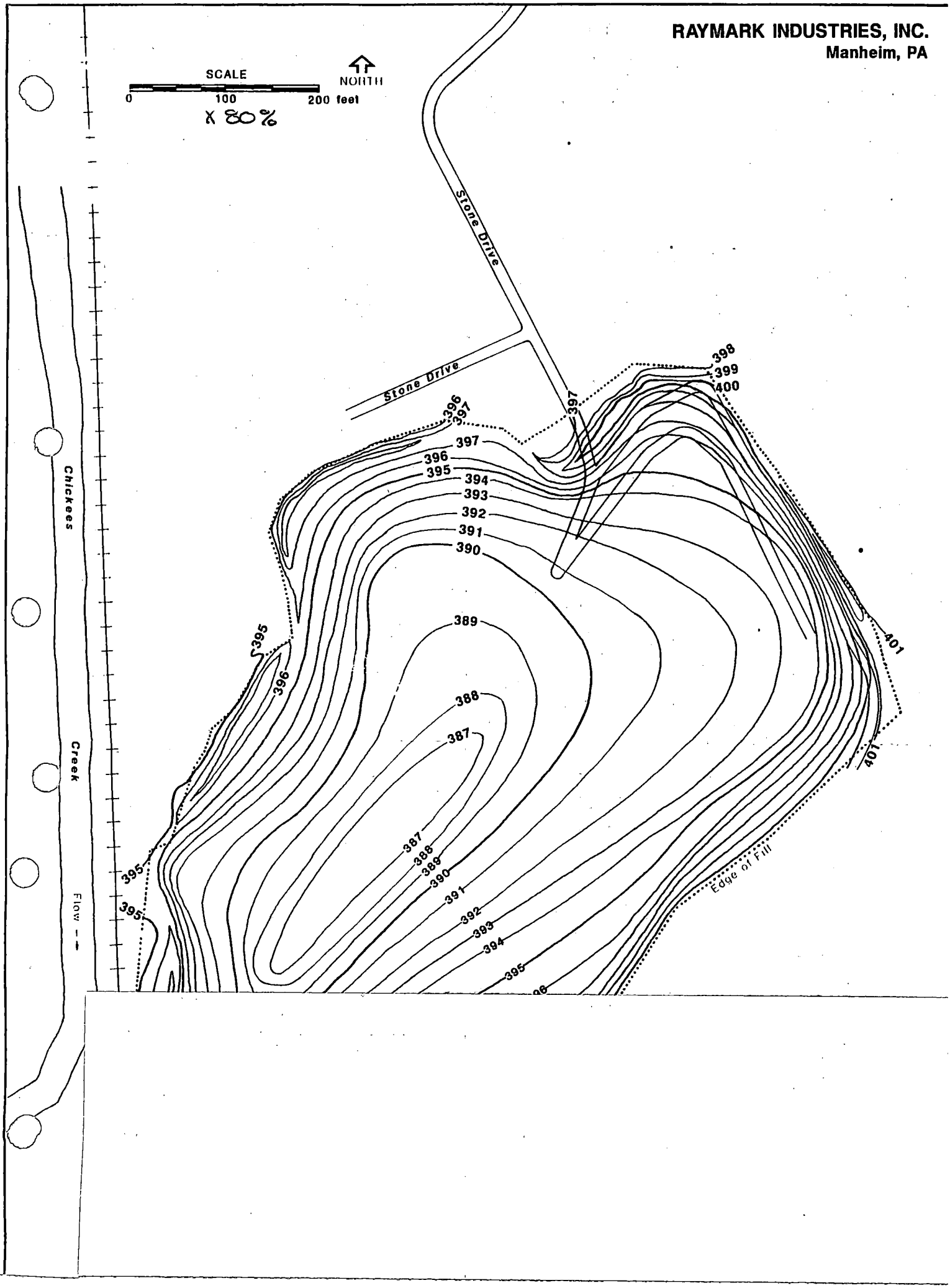
Poth, C. W. (1977), *Summary ground-water resources of Lancaster County, Pennsylvania*, Pennsylvania Geological Survey, 4th ser., Water Resource Report 43, 80 p.

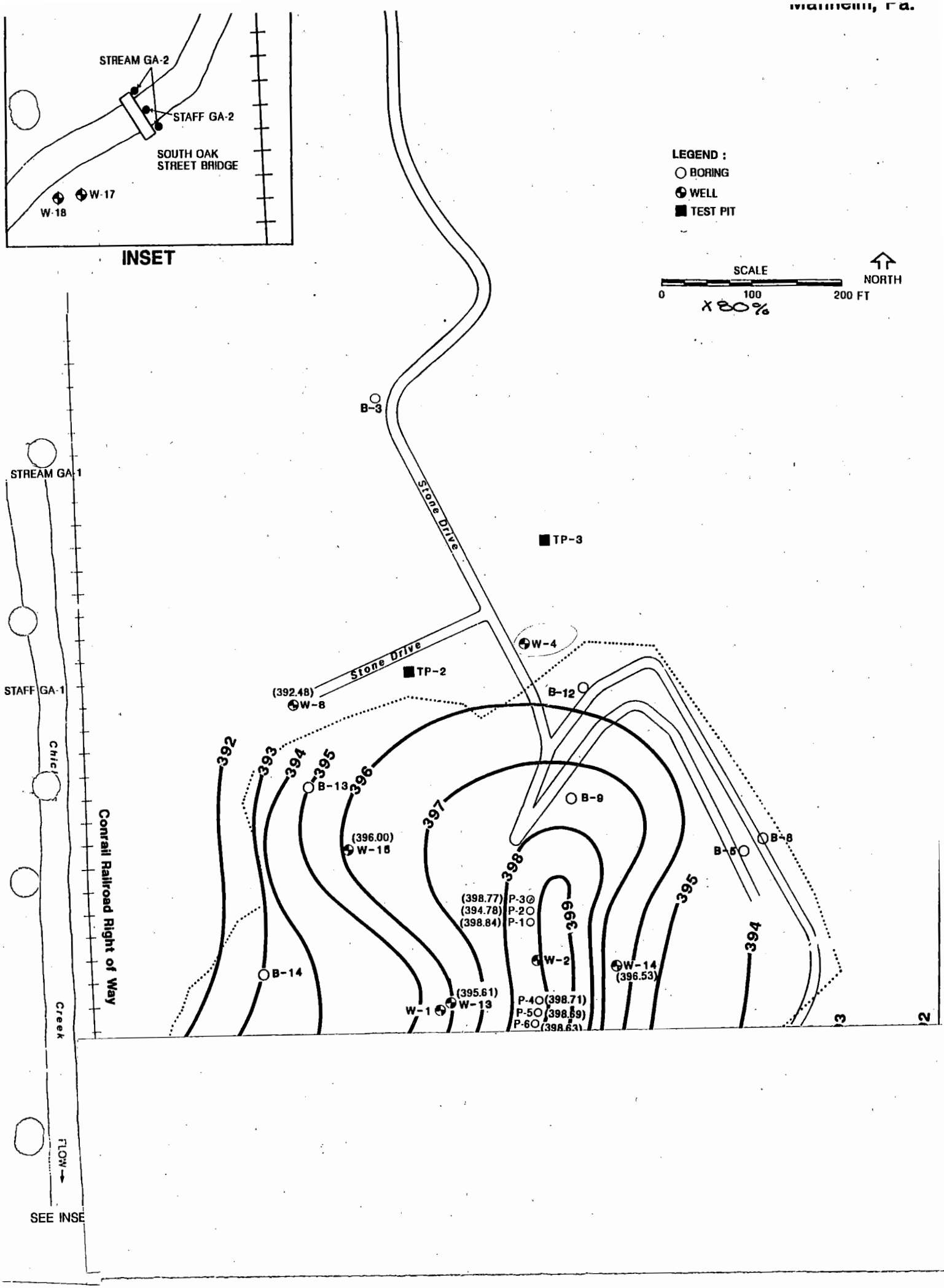
Compiled by A. R. GEYER and T. M. BERG, 1975-1976

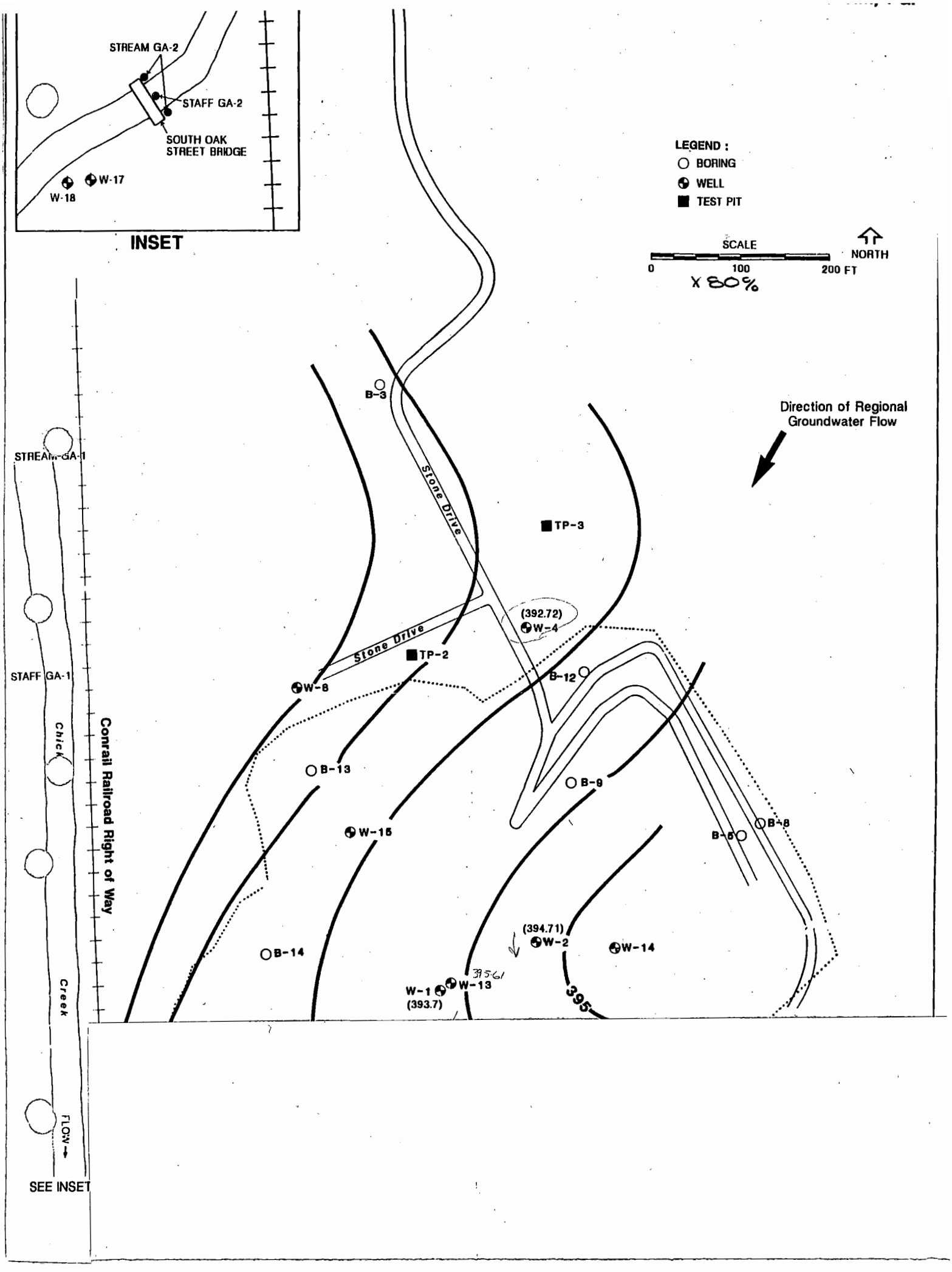
MANHEIM

Figure 1 (Map 61 PaTopo & Geol Survey)

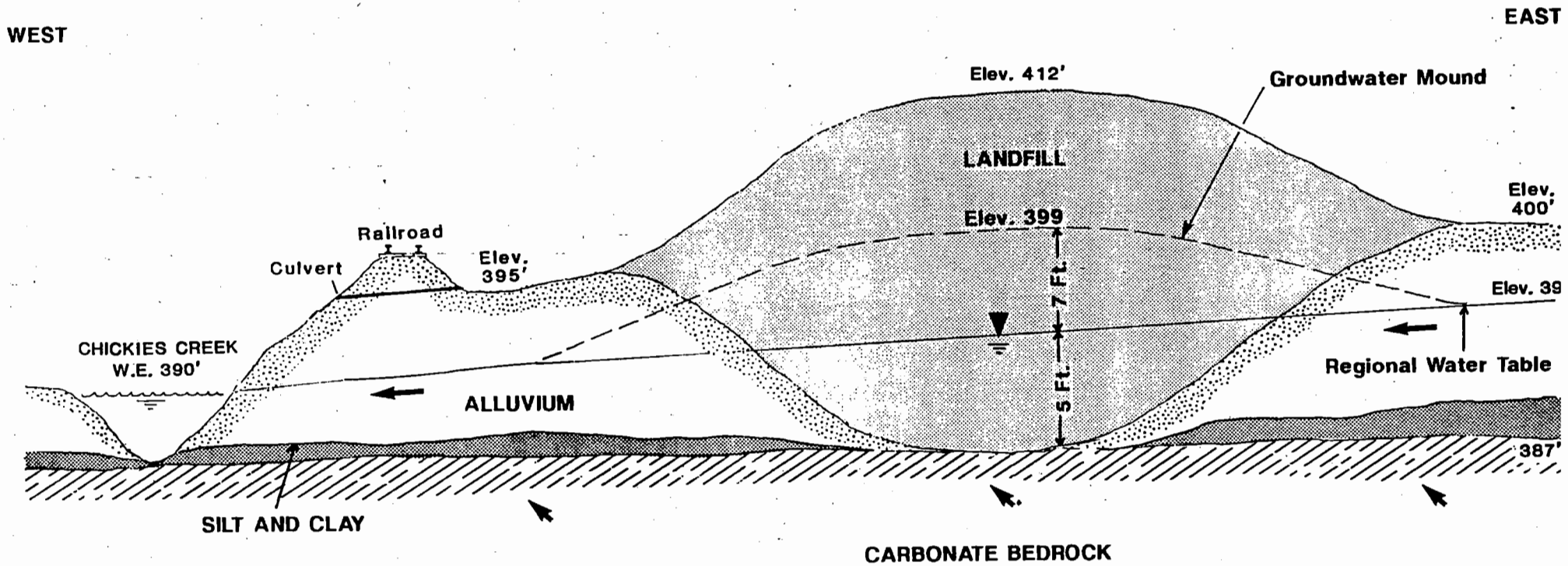
RAYMARK INDUSTRIES, INC.
Manheim, PA




STREAM GA-2
STAFF GA-2
SOUTH OAK
STREET BRIDGE
W-17
W-18
INSET
LEGEND :
BORING
WELL
TEST PIT
SCALE
0
100
200 FT
X 80%
NORTH
B-3
STREAM GA-1
Stone Drive
TP-3
W-4
Stone Drive
TP-2
(392.48)
W-8
B-12
STAFF GA-1
Chic
392
393
394
395
B-13
396
397
B-9
(396.00)
W-16
398
B-5
B-8
(398.77) P-3
(394.78) P-2
(398.84) P-1
399
395
394
W-2
W-14
(396.53)
B-14
(395.61)
W-1
W-13
P-4 (398.71)
P-5 (398.69)
P-6 (398.63)
Conrail Railroad Right of Way
Creek
FLOW
SEE INSE


STREAM GA-2
STAFF GA-2
SOUTH OAK STREET BRIDGE
W-17
W-18
INSET
LEGEND :
BORING
WELL
TEST PIT
SCALE
0
100
200 FT
X 80%
NORTH
Direction of Regional Groundwater Flow
STREAM GA-1
STAFF GA-1
Chick
Creek
FLOW
SEE INSET
Conrail Railroad Right of Way
Stone Drive
Stone Drive
B-3
TP-3
(392.72)
W-4
TP-2
W-8
B-12
B-13
B-9
B-8
B-5
W-15
B-14
(394.71)
W-2
W-14
W-1
(393.7)
W-13
395
395.61

RAYMARK LANDFIL
Manheim, PA



BCM Project No. 00-4174-23

Not to Scale (Vertical Exaggeration)

Figure A-
Schematic Diagram
Hydrologic System at Lan

Raymark

APPENDIX A

Comprehensive Ground-Water Monitoring Evaluation Worksheet

APPENDIX A

COMPREHENSIVE GROUND-WATER MONITORING EVALUATION WORKSHEET

The following worksheets have been designed to assist the enforcement officer/ technical reviewer in evaluating theground-water monitoring system an owner/operator uses to collect and analyze samples of ground water. The focus of the worksheets is technical adequacy as it relates to obtaining and analyzing representative samples of ground water. The basis of the worksheets is the final RCRA Ground Water Monitoring Technical Enforcement Guidance Document which describes in detail the aspects of ground-water monitoring which EPA deems essential to meet the goals of RCRA. Appendix A is not a regulatory checklist. Specific technical deficiencies in the monitoring system can, however, be related to the regulations as illustrated in Figure 4.3 taken from the RCRA Ground-Water Monitoring Compliance Order Guide (COG) (included at the end of the appendix). The enforcement officer, in developing an enforcement order, should relate the technical assessment from the worksheets to the regulations using Figure 4.3 from the COG as a guide.

Comprehensive Ground-Water Monitoring Evaluation	Y/N
I. Office Evaluation Technical Evaluation of the Design of the Ground-Water Monitoring System	
A. Review of Relevant Documents	
1. What documents were obtained prior to conducting the inspection:	
a. RCRA Part A permit application?	N
b. RCRA Part B permit application?	N
c. Correspondence between the owner/operator and appropriate agencies or citizen's groups?	Y
d. Previously conducted facility inspection reports?	Y
e. Facility's contractor reports?	Y
f. Regional hydrogeologic, geologic, or soil reports?	Y
g. The facility's Sampling and Analysis Plan?	Y
h. Ground-water Assessment Program Outline (or Plan, if thefacility is in assessment monitoring)?	Y
i. Other (specify) GW Assessment Report, Closure Plan Application	

	Y/N
B. Evaluation of the Owner/Operator's Hydrogeologic Assessment	
1. Did the owner/operator use the following direct techniques in the hydrogeologic assessment:	
a. Logs of the soil borings/rock corings (documented by a professional geologist, soil scientist, or geotechnical engineer)?	Y
b. Materials tests (e.g., grain size analyses, standard penetration tests, etc.)?	Y
c. Piezometer installation for water level measurments at different depths?d. Slug tests?	Y
e. Pump tests?	Y
f. Geochemical analyses of soil samples?	N
g. Other (specify) (e.g., hydrochemical diagrams and wash analysis)	
2. Did the owner/operator use the following indirect technique to supplement direct techniques data:	
a. Geophysical well logs?	N
b. Tracer studies?	N
c. Resistivity and/or electromagnetic conductance?	N
d. Seismic Survey?	N
e. Hydraulic conductivity measurements of cores?	N
f. Aerial photography?	N
g. Ground penetrating radar?	N
h. Other (specify)	N
3. Did the owner/operator document and present the raw data from the site hydrogeologic assessment?	Y
4. Did the owner/operator document methods (criteria) used to correlate and analyze the information?	Y
5. The owner/operator prepare the following:	
a. Narrative description of geology?	Y
b. Geologic cross sections?	Y
c. Geologic and soil maps?	Y
d. Boring/coring logs?	Y
e. Structure contour maps of the differing water bearing zones and confining layer?	N
f. Narrative description and calculation of ground-water flows?	Y

	Y/N
g. Water table/potentiometric map?	Y
h. Hydrologic cross sections?	Y
6. Did the owner/operator obtain a regional map of the area and delineate the facility?	Y
If yes, does this map illustrate: a. Surficial geology features?	Y
b. Streams, rivers, lakes, or wetlands near the facility?	Y
c. Discharging or recharging wells near the facility?	Y
7. Did the owner/operator obtain a regional hydrogeologic map?	Y
If yes, does this hydrogeologic map indicate: a. Major areas of recharge/discharge?	N
b. Regional ground-water flow direction?	Y
c. Potentiometric contours which are consistent with observed water level elevations?	Y
8. Did the owner/operator prepare a facility site map?	Y
If yes, does the site map show: a. Regulated units of the facility (e.g., landfill areas,impoundments)?	Y
b. Any seeps, springs, streams, ponds, or wetlands?	Y
c. Location of monitoring wells, soil borings, or test pits?	Y
d. How many regulated units does the facility have? 1	
If more than one regulated unit then, • Does the waste management area encompass all regulated units?	N/A
• Is a waste management area delineated for each regulated unit?	N/A
C. Characterization of Subsurface Geology of Site	
1. Soil boring/test pit program:	Y
a. Were the soil borings/test pits performed under thesupervision of a qualified professional?	Y
b. Did the owner/operator provide documentation for selecting the spacing for borings?	Y
c. Were the borings drilled to the depth of the first confining unit below the uppermost zone of saturation or ten feet into bedrock?	Y
d. Indicate the method(s) of drilling: Auger, Air rotary percussion	

	Y/N
Auger (hollow or solid stem) ✓ Mud rotary ___ Reverse rotary ___ Cable tool ___ Jetting ___ Other (specify) ___	
e. Were continuous sample corings taken?	N
f. How were the samples obtained (checked method[s]) • Split spoon ✓ • Shelby tube, or similar ✓ • Rock coring ___ • Ditch sampling ___ • Other (explain) ___	
g. Were the continuous sample corings logged by a qualified professional in geology?	N/A
h. Does the field boring log include the following information:	
• Hole name/number?	Y
• Date started and finished?	Y
• Driller's name?	Y
• Hole location (i.e., map and elevation)?	Y
• Drill rig type and bit/auger size?	Y
• Gross petrography (e.g., rock type) of each geologic unit?	Y
• Gross mineralogy of each geologic unit?	Y
• Gross structural interpretation of each geologic unit and structural features (e.g., fractures, gouge material, solution channels, buried streams or valleys, identification of depositional material)?	N
• Development of soil zones and vertical extent and description of soil type?	Y
• Depth of water bearing unit(s) and vertical extent of each?	Y
• Depth and reason for termination of borehole?	Y
• Depth and location of any contaminant encountered in borehole?	Y
• Sample location/number?	Y
• Percent sample recovery?	N/A
• Narrative descriptions of: —Geologic observations?	N
—Drilling observations?	N
i. Were the following analytical tests performedon the core samples: • Mineralogy (e.g., microscopic tests and x-ray diffraction)?	N
• Petrographic analysis: —degree of crystallinity and cementation of matrix?	N
—degree of sorting, size fraction (i.e., sieving), textural variations?	N
—rock type(s)?	Y

	Y/N
—soil type?	Y
—approximate bulk geochemistry?	Y
—existence of microstructures that may effect or indicate fluid flow?	N
• Falling head tests?	N
• Static head tests?	Y
• Settling measurements?	N
• Centrifuge tests?	N
• Column drawings?	Y
D. Verification of Subsurface Geological Data 1. Has the owner/operator used indirect geophysical methods to supplement geological conditions between borehole locations?	N
2. Do the number of borings and analytical data indicate that the confining layer displays a low enough permeability to impede the migration of contaminants to any stratigraphically low water-bearing units?	N
3. Is the confining layer laterally continuous across the entire site?	N
4. Did the owner/operator consider the chemical compatibility of the site-specific waste types and the geologic materials of the confining layer?	Y
5. Did the geologic assessment address or provide means for resolution of any information gaps of geologic data?	N
6. Do the laboratory data corroborate the field data for petrography?	N/A
7. Do the laboratory data corroborate the field data for mineralogy and subsurface geochemistry?	N
E. Presentation of Geologic Data 1. Did the owner/operator present geologic cross sections of the site?	Y
2. Do cross sections: a. identify the types and characteristics of the geologic materials present?	Y
b. define the contact zones between different geologic materials?	N
c. note the zones of high permeability or fracture?	N
d. give detailed borehole information including:	

	Y/N
• location of borehole?	Y
• depth of termination?	Y
• location of screen (if applicable)?	Y
• depth of zone(s) of saturation?	Y
• backfill procedure?	Y
3. Did the owner/operator provide a topographic map which was constructed by a licensed surveyor?	?
4. Does the topographic map provide:	
a. contours at a maximum interval of two-feet?	N
b. locations and illustrations of man-made features (e.g., parking lots, factory buildings, drainage ditches, storm drain, pipelines, etc.)?	Y
c. descriptions of nearby water bodies?	N
d. descriptions of off-site wells?	N
e. site boundaries?	Y
f. individual RCRA units?	N
g. delineation of the waste management area(s)?	Y
h. well and boring locations?	Y
5. Did the owner/operator provide an aerial photograph depicting the site and adjacent off-site features?	N
6. Does the photograph clearly show surface water bodies, adjacent municipalities, and residences and are these clearly labelled?	N
F. Identification of Ground-Water Flowpaths	
1. Ground-water flow direction	
a. Was the well casing height measured by a licensed surveyor to the nearest 0.01 feet?	Y
b. Were the well water level measurements taken within a 24 hour period?	Y
c. Were the well water level measurements taken to the nearest 0.01 feet?	Y
d. Were the well water levels allowed to stabilize after construction and development for a minimum of 24 hours prior to measurements?	Y
e. Was the water level information obtained from (check appropriate one):	
• multiple piezometers placed in single borehole?	—
• vertically nested piezometers in closely spaced separate	✓
• boreholes?	—
• monitoring wells?	✓

	Y/N
f. Did the owner/operator provide construction details for the piezometers?	Y
g. How were the static water levels measured (check method[s]). • Electric water sounder ✓ • Wetted tape ____ • Air line ____ • Other (explain) ____	
h. Was the well water level measured in wells with equivalent screened intervals at an equivalent depth below the saturated zone?	Y
i. Has the owner/operator provided a site water table (potentiometric) contour map?	Y
If yes, • Do the potentiometric contours appear logical and accurate based on topography and presented data? (Consult water level data)	Y
• Are ground-water flow-lines indicated?	N Y
• Are static water levels shown?	Y
• Can hydraulic gradients be estimated?	Y
j. Did the owner/operator develop hydrologic cross sections of the vertical flow component across the site using measurements from all wells?	N
k. Do the owner/operator's flow nets include: • piezometer locations?	Y
• depth of screening?	Y
• width of screening?	Y
• measurements of water levels from all wells and piezometers?	Y
2. Seasonal and temporal fluctuations in ground-water	
a. Do fluctuations in static water levels occur? If yes, are the fluctuations caused by any of the following:	Y
—Off-site well pumping	Y
—Tidal processes or other intermittent natural variations (e.g., river stage, etc.)	Y
—On-site well pumping	N
—Off-site, on-site construction or changing land use patterns	N
—Deep well injection	N
—Seasonal variations	Y
—Other (specify) ____	
b. Has the owner/operator documented sources and patterns that contribute to or affect the ground-water patterns below the waste management?	Y
c. Do water level fluctuations alter the general ground-water gradients and flow directions?	N
d. Based on water level data, do any head differentials occur that may indicate a vertical flow component in the saturated zone?	Y

	Y/N
e. Did the owner/operator implement means for gauging long term effects on water movement that may result from on-site or off-site construction or changes in land-use patterns?	N
3. Hydraulic conductivity a. How were hydraulic conductivities of the subsurface materials determined?	
• Single-well tests (slug tests)?	Y
• Multiple-well tests (pump tests)	Y
• Other (specify) _____	
b. If single-well tests were conducted, was it done by: • Adding or removing a known volume of water?	Y
• Pressurizing well casing?	N
c. If single well tests were conducted in a highly permeable formation, were pressure transducers and high-speed recording equipment used to record the rapidly changing water levels?	N
d. Since single well tests only measure hydraulic conductivity in a limited area, were enough tests run to ensure a representative measure of conductivity in each hydrogeologic unit?	N
e. Is the owner/operator's slug test data (if applicable) consistent with existing geologic information (e.g., boring logs)?	Y
f. Were other hydraulic conductivity properties determined?	
g. If yes, provide any of the following data, if available: • Transmissivity _____ • Storage coefficient _____ • Leakage _____ • Permeability 2.5x10⁻³ to 3.5x10⁻³ cm/sec • Porosity _____ • Specific capacity _____ • Other (specify) _____	
4. Identification of the uppermost aquifer a. Has the extent of the uppermost saturated zone (aquifer) in the facility area been defined? If yes,	
• Are soil boring/test pit logs included?	Y
• Are geologic cross-sections included?	Y
b. Is there evidence of confining (competent, unfractured, continuous, and low permeability) layers beneath the site? If yes,	N
• how was continuity demonstrated? borings show discontinuous clay	
c. What is hydraulic conductivity of the confining unit (if present)? CM/Sec How was it determined?	

	Y/N
d. Does potential for other hydraulic communication exist (e.g., lateral incontinuity between geologic units, facies changes, fracture zones, cross cutting structures, or chemical corrosion/alteration of geologic units by leachage? If yes or no, what is the rationale? clay layer underlying alluvial aquifer is discontinuous. underlying carbonate bedrock aquifer is definately in communication	
G. Office Evaluation of the Facility's Ground-Water Monitoring System—Monitoring Well Design and Construction: These questions should be answered for each different well design present at the facility. 1. Drilling Methods a. What drilling method was used for the well? • Hollow-stem auger ☐ • Solid-stem auger ☐ • Mud rotary ☐ • Air rotary ☑ • Reverse rotary ☐ • Cable tool ☐ • Jetting ☐ • Air drill w/ casing hammer ☐ • Other (specify) _____	
b. Were any cutting fluids (including water) or additives used during drilling? If yes, specify: • Type of drilling fluid water • Source of water used _____ • Foam _____ • Polymers _____ • Other _____	
c. Was the cutting fluid, or additive, identified?	N
d. Was the drilling equipment steam-cleaned prior to drilling the well? • Other methods _____	N
e. Was compressed air used during drilling? If yes, • was the air filtered to remove oil?	N
f. Did the owner/operator document procedure for establishing the potentiometric surface? If yes, • how was the location established? measurement of static water level	Y
g. Formation samples visual	Y

	Y/N
• Were formation samples collected initially during drilling?	Y
• Were any cores taken continuous?	N
• If not, at what interval were samples taken?	?
• How were the samples obtained? —Split spoon —Shelby tube —Core drill —Other (specify)	
• Identify if any physical and/or chemical tests were performed on the formation samples (specify) EP leaching procedure and chemical analysis of waste material	

2. Monitoring Well Construction Materials

a. Identify construction materials (by number) and diameters (ID/OD)

	Material	Diameter	
• Primary Casing	steel	6"	PVC 4"
• Secondary or outside casing (doubleconstruction)	N/A		steel 6"
• Screen	N/A		PVC 4"

b. How are the sections of casing and screen connected?	
• Pipe sections threaded	
• Couplings (friction) with adhesive or solvent	
• Couplings (friction) with retainer screws	
• Other (specify) no screen	
c. Were the materials steam-cleaned prior to installation?	
• If no, how were the materials cleaned?	?

3. Well Intake Design and Well Development

a. Was a well intake screen installed?	Y N
• What is the length of the screen for the well? #9-14.5', #10A-10',	N/A
• Is the screen manufactured?	Y N/A
b. Was a filter pack installed?	Y N/A
• What kind of filter pack was employed? "clean silica sand" or open rock hole	N/A
• Is the filter pack compatible with formationmaterials?	N/A
• How was the filter pack installed?	? N/A

	Y/N
• What are the dimensions of the filter pack? 4" ID PVC in 8.75" diam hole	
• Has a turbidity measurement of the well water ever been made?	?
• Have the filter pack and screen been designed for the insitu materials? _____	N/A
c. Well development • Was the well developed?	Y
• What technique was used for well development? —Surge block —Bailer —Air surging —Water pumping —Other (specify) _____	
4. Annular Space Seals a. What is the annular space in the saturated zone directlyabove the filter pack filled with: —Sodium bentonite (specify type and grit) —Cement (specify neat or concrete) Formation Cuttings —Other (specify) Portland Cement and Bentonite (some)	
b. Was the seal installed by: —Dropping material down the hole and tamping —Dropping material down the inside of hollow-stem auger —Tremie pipe method —Other (specify) shovel	
c. Was a different seal used in the unsaturated zone? If yes,	N
• Was this seal made with? —Sodium bentonite (specify type and grit) —Cement (specify neat or concrete)- Other (specify)	
• Was this seal installed by? —Dropping material down the hole and tamping —Dropping material down the inside of hollow stem auger —Other (specify)	
d. Is the upper portion of the borehole sealed with a concrete cap to prevent infiltration from the surface?	Y
e. Is the well fitted with an above-ground protectivedevice and bumper guards?	Y
f. Has the protective cover been installed with locks to prevent tampering?	Y

	Y/N
H. Evaluation of the Facility's Detection Monitoring Program	
1. Placement of Downgradient Detection Monitoring Wells	
a. Are the ground-water monitoring wells or clusters located immediately adjacent to the waste management area?	Y
b. How far apart are the detection monitoring wells? 80 – 500'	
c. Does the owner/operator provide a rationale for thelocation of each monitoring well or cluster?	Y
d. Does the owner/operator identified the well screenlengths of each monitoring well or clusters? few have screen	Y
e. Does the owner/operator provide an explanation for the well screen lengths of each monitoring well orcluster?	N
f. Do the actual locations of monitoring wells orclusters correspond to those identified by the owner/operator?	Y
2. Placement of Upgradient Monitoring Wells	
a. Has the owner/operator documented the location ofeach upgradient monitoring well or cluster?	Y
b. Does the owner/operator provide an explanation forthe location(s) of the upgradient monitoring wells?	Y
c. What length screen has the owner/operator employed inthe background monitoring well(s)?	14.5'
d. Does the owner/operator provide an explanation for the screen length(s) chosen?	N
e. Does the actual location of each background monitoring well or cluster correspond to that identified by the owner/operator?	?
I. Office Evaluation of the Facility's Assessment Monitoring Program	
1. Does the assessment plan specify: Assessment Plan has been supplemented by Landfill Closure Plan	
a. The number, location, and depth of wells?	Y
b. The rationale for their placement and identify the basis that will be used to select subsequent sampling locations and depths in later assessment phases?	Y
2. Does the list of monitoring parameters include all hazardous waste constituents from the facility? Appendix IX Analyses have been conducted at 4 wells on the facility	

	Y/N
a. Does the water quality parameter list include other important indicators not classified as hazardous waste constituents?	Y
b. Does the owner/operator provide documentation for he listed wastes which are not included?	Y
3. Does the owner/operator's assessment plan specify the procedures to be used to determine the rate of constituent migration in the ground-water?	Y
4. Has the owner/operator specified a schedule of implementation in the assessment plan?	Y
5. Have the assessment monitoring objectives been clearly defined in the assessment plan?	Y
a. Does the plan include analysis and/or re-evaluation to determine if significant contamination has occurredin any of the detection monitoring wells?	Y
b. Does the plan provide for a comprehensive program of investigation to fully characterize the rate and extent of contaminant migration from the facility?	Y
c. Does the plan call for determining the concentrations of hazardous wastes and hazardous waste constituentsin the ground water?	Y
d. Does the plan employ a quarterly monitoring program?	Y
6. Does the assessment plan identify the investigatory methods that will be used in the assessment phase?	Y
a. Is the role of each method in the evaluation fully described?	N
b. Does the plan provide sufficient descriptions of the direct methods to be used?	Y
c. Does the plan provide sufficient descriptions of the indirect methods to be used?	Y
d. Will the method contribute to the further characterization of the contaminant movement?	Y
7. Are the investigatory techniques utilized in the assessment program based on direct methods?	Y
a. Does the assessment approach incorporate indirect methods to further support direct methods?	N
b. Will the planned methods called for in the assessment approach ultimately meet performance standards for assessment monitoring?	Y
c. Are the procedures well defined?	Y
d. Does the approach provide for monitoring wells similar in design and construction as the detectionmonitoring wells?	Y

	Y/N
e. Does the approach employ taking samples during drilling or collecting core samples for further analysis?	N
8. Are the indirect methods to be used based on reliable and accepted geophysical techniques?	N
a. Are they capable of detecting subsurface changesresulting from contaminant migration at the site?	N/A
b. Is the measurement at an appropriate level of sensitivity to detect ground-water quality changes at the site?	N/A
c. Is the method appropriate considering the nature of the subsurface materials?	N/A
d. Does the approach consider the limitations of these methods?	N/A
e. Will the extent of contamination and constituent concentration be based on direct methods and sound engineering judgment? (Using indirect methods tofurther substantiate the findings.)	Y
9. Does the assessment approach incorporate any mathe-matical modeling to predict contaminant movement?	Y
a. Will site specific measurements be utilized toaccurately portray the subsurface?	N
b. Will the derived data be reliable?	Y
c. Have the assumptions been identified?	Y
d. Have the physical and chemical properties of the site-specific wastes and hazardous waste constituentsbeen identified?	Y
J. Conclusions	
1. Subsurface geology	
a. Has sufficient data been collected to adequately define petrography and petrographic variation?	N
b. Has the subsurface geochemistry been adequately defined?	N
c. Was the boring/coring program adequate to definesubsurface geologic variation?	Y
d. Was the owner/operator's narrative description complete and accurate in its interpretation of the data?	N
e. Does the geologic assessment address or provide means to resolve any information gaps?	N
2. Ground-water flowpaths	
a. Did the owner/operator adequately establish the hori-zontal and vertical components of ground-water flow?	N

	Y/N
b. Were appropriate methods used to establish ground-water flowpaths?	Y
c. Did the owner/operator provide accurate documentation?	Y
d. Are the potentiometric surface measurements valid?	Y
e. Did the owner/operator adequately consider the seasonal and temporal effects on the ground-water?	N
f. Were sufficient hydraulic conductivity tests performed to document lateral and vertical variationin hydraulic conductivity in the entire hydrogeologic subsurface below the site?	N
3. Uppermost Aquifer a. Did the owner/operator adequately define the upper-most aquifer?	Y
4. Monitoring Well Construction and Design a. Do the design and construction of the owner/operator's ground-water monitoring wells permit depth discrete ground-water samples to be taken?	Y
b. Are the samples representative of ground-water quality?	Y
c. Are the ground-water monitoring wells structurally stable?	Y
d. Does the ground-water monitoring well's design and construction permit an accurate assessment of aquifer characteristics?	Y
5. Detection Monitoring a. Downgradient Wells • Do the location, and screen lengths of the ground-water monitoring wells or clusters in the detection monitoring system allow the immediate detection of a release of hazardous waste or constituents from the hazardous waste management area to the uppermost aquifer?	Y
b. Upgradient Wells • Do the location and screen lengths of the upgradient (background) ground-water monitoring wells ensure the capability of collecting ground-water samples representative of upgradient (background) ground-water quality including any ambient heterogenous chemical characteristics?	Y
6. Assessment Monitoring a. Has the owner/operator adequately characterized site hydrogeology to determine contaminant migration?	N
b. Is the detection monitoring system adequately designed and constructed to immediately detect any contaminant release?	N

	Y/N
c. Are the procedures used to make a first determinationof contamination adequate?	Y
d. Is the assessment plan adequate to detect, characterize, and track contaminant migration?	Y
e. Will the assessment monitoring wells, given site hydrogeologic conditions, define the extent and concentration of contamination in the horizontal and vertical planes?	N
f. Are the assessment monitoring wells adequately designed and constructed?	Y
g. Are the sampling and analysis procedures adequate to provide true measures of contamination?	Y
h. Do the procedures used for evaluation of assessment monitoring data result in determinations of the rate of migration, extent of migration, and hazardous constituent composition of the contaminant plume?	N
i. Are the data collected at sufficient frequency and duration to adequately determine the rate of migration?	Y
j. Is the schedule of implementation adequate?	Y
k. Is the owner/operator's assessment monitoring plan adequate?	Y
• If the owner/operator had to implement hisassessment monitoring plan, was it implemented satisfactorily?	Y
II. Field Evaluation **A. Ground-Water Monitoring System** 1. Are the numbers, depths, and locations of monitoring wells in agreement with those reported in the facility's monitoring plan? (See Section 3.2.3.)	Y
B. Monitoring Well Construction 1. Identify construction material/material diameter — wells 9 & 10A a. Primary Casing steel — 4" PVC b. Secondary or outside casing N/A — steel	
2. Is the upper portion of the borehole sealed with conrete to prevent infiltration from the surface? some	Y
3. Is the well fitted with an above-ground protective device?	Y
4. Is the protective cover fitted with locks to prevent tampering? If a facility utilizes more than a single well design, answer the above questions for each well design?	Y

	Y/N
III. Review of Sample Collection Procedures	
A. Measurement of Well Depths /Elevation	
1. Are measurements of both depth to standing water and depth to the bottom of the well made?	Y
2. Are measurements taken to the 0.01 feet?	Y
3. What device is used? electric water level probe	
4. Is there a reference point established by a licensed surveyor?	Y
5. Is the measuring equipment properly cleaned betweenwll locations to prevent cross contamination?	Y
B. Detection of Immiscible Layers	
1. Are procedures used which will detect light phase immiscible layers?	N
2. Are procedures used which will detect heavy phase immiscible layers?	N
C. Sampling of Immiscible Layers	
1. Are the immiscible layers sampled separately prior to well evacuation?	N
2. Do the procedures used minimize mixing with watersoluble phases?	N
D. Well Evacuation	
1. Are low yielding wells evacuated to dryness?	Y
2. Are high yielding wells evacuated so that at least three casing volumes are removed?	Y
3. What device is used to evacuate the wells? dedicated submersible pumps well 10A - suction pump (centrifugal)	
4. If any problems are encountered (e.g., equipmentmalfunction) are they noted in a field logbook?	Y

	Y/N
E. Sample Withdrawal	
1. For low yielding wells, are samples for volatiles, pH, and oxidation/reduction potential drawn first after the well recovers?	VOC pH only, no Eh
2. Are samples withdrawn with either flurocarbon/resins or stainless steel (316, 304 or 2205) sampling devices?	Y
3. Are sampling devices either bottom valve bailers or positive gas displacement bladder pumps?	N
4. If bailers are used, is fluorocarbon/resin coated wire, single strand stainless steel wire, or monofilament used to raise and lower the bailer?	Y
5. If bladder pumps are used, are they operated in acontinuous manner to prevent aeration of the sample?	N/A
6. If bailers are used, are they lowered slowly to prevent degassing of the water?	Y
7. If bailers are used, are the contents transferred to the sample container in a way that minimizes agitation and aeration?	Y
8. Is care taken to avoid placing clean sampling equipment on the ground or other contaminated surfaces prior to insertion into the well?	Y
9. If dedicated sampling equipment is not used, is equipment disassembled and thoroughly cleaned between samples?	Y
10. If samples are for inorganic analysis, does the cleaning procedure include the following sequential steps: a. Dilute acid rinse (HNO_3 or HC1)?11. ~~If samples are for organic analysis, does the cleaning procedure include the following sequential steps:~~ ?	?
11. If samples are for inorganic analysis, does the cleaning procedure include the following sequential steps: a. Nonphosphate detergent wash?	Y
b. Tap water rinse?	N
c. Distilled/deionized water rinse?	Y
d. Acetone rinse?	N
e. Pesticide-grade hexane rinse?	N

	Y/N
12. Is sampling equipment thoroughly dry before use?	Y
13. Are equipment blanks taken to ensure that sample cross-contamination has not occurred?	Y
14. If volatile samples are taken with a positive gas displacement bladder pump, are pumping rates below 100 ml/min?	N/A
F. In-situ or Field Analyses	
1. Are the following labile (chemically unstable) parameters determined in the field:	
a. pH?	Y
b. Temperature?	Y
c. Specific conductivity?	Y
d. Redox potential?	N
e. Chlorine?	N
f. Dissolved oxygen?	N
g. Turbidity?	N
h. Other (specify) _____	
2. For in-situ determinations, are they made after well evacuation and sample removal?	N/A
3. If sample is withdrawn from the well, is parameter measured from a split portion?	N
4. Is monitoring equipment calibrated according to mannufacturers' specifications and consistent with SW-846?	Y
5. Is the date, procedure, and maintenance for equipment calibration documented in the field logbook?	Y
IV. Review of Sample Preservation and Handling Procedures	
A. Sample Containers	Y
1. Are samples transferred from the sampling device directly to their compatible containers?	

	Y/N
2. Are sample containers for metals (inorganics) analyses polyethylene with polypropylene caps?	Y
3. Are sample containers for organics analysis glass bottles with fluorocarbonresin-lined caps?	Y
4. If glass bottles are used for metals samples are the caps fluorocarbonresin-lined?	N/A
5. Are the sample containers for metal analyses cleanedusing these sequential steps:	?
a. Nonphosphate detergent wash?	
b. 1:1 nitric acid rinse?	
c. Tap water rinse?	
d. 1:1 hydrochloric acid rinse?	
e. Tap water rinse?	
f. Distilled/deionized water rinse?	
6. Are the sample containers for organic analyses cleaned using these sequential steps:	?
a. Nonphosphate detergent/hot water wash?	
b. Tap water rinse?	
c. Distilled/deionized water rinse?	
d. Acetone rinse?	
e. Pesticide-grade hexane rinse?	
7. Are trip blanks used for each sample container type to verify cleanliness?	
B. Sample Preservation Procedures samples were analyzed for selected list of parameters (see attached documents)	
1. Are samples for the following analyses cooled to 4°C:	
a. TOC?	N/A
b. TOX?	N/A
c. Chloride?	Y
d. Phenols?	N/A
e. Sulfate?	Y
f. Nitrate?	N/A
g. Coliform bacteria?	N/A
h. Cyanide?	N/A
i. Oil and grease?	N/A
j. Hazardous constituents (}261, Appendix VIII)?	N/A

	Y/N
2. Are samples for the following analyses field acidified to pH <2 with HNO_3:	
a. Iron?	Y
b. Manganese?	Y
c. Sodium?	Y
d. Total metals?	Y
e. Dissolved metals?	Y
f. Fluoride?	N/A
g. Endrin?	
h. Lindane?	
i. Methoxychlor?	
j. Toxaphene?	
k. 2,4, D?	
l. 2,4,5 TP Silvex?	
m. Radium?	
n. Gross alpha?	
o. Gross beta?	
3. Are samples for the following analyses field acidfied to pH <2 with H_2SO_4:	
a. Phenols?	N/A
b. Oil and grease?	1
4. Is the sample for TOC analyses field acified to pH <2 with HCl? TOC & TOX not run. VOC & semi-volatiles run instead	N/A
5. Is the sample for TOX analysis preserved with 1 ml of 1.1 M sodium sulfite?	N/A
6. Is the sample for cyanide analysis preserved with NaOH to pH >12?	N/A
C. Special Handling Considerations	
1. Are organic samples handled without filtering?	Y
2. Are samples for volatile organics transfered to the appropriate vials to eliminate headspace over the sample?	Y
3. Are samples for metal analysis split into two portions?	Y
4. Is the sample for dissolved metals filtered through a 0.45 micron filter?	Y
5. Is the second portion not filtered and analyzed for total metals?	Y
6. Is one equipment blank prepared each day of ground-water sampling?	Y

	Y/N
V. Review of Chain-of-Custody Procedures	
A. Sample Labels	
1. Are sample labels used?	Y
2. Do they provide the following information:	
a. Sample identification number?	Y
b. Name of collector?	Y
c. Date and time of collection?	Y
d. Place of collection?	Y
e. Parameter(s) requested and preservitives used?	Y
3. Do they remain legible even if wet?	Y
B. Sample Seals DER samples are legal sealed facility samples were not	
1. Are sample seals placed on those containers to ensure samples are not altered?	
C. Field Logbook	
1. Is a field logbook maintained?	Y
2. Does it document the following:	
a. Purpose of sampling (e.g., detection or assesment)?	N
b. Location of well(s)?	N
c. Total depth of each well?	N
d. Static water level depth and measurement technique?	Y
e. Presence of immiscible layers and detection method?	N
f. Collection method for immiscible layers and sample identification numbers?	N
g. Well evacuation procedures?	Y
h. Sample withdrawal procedure?	Y
i. Date and time of collection?	Y
j. Well sampling sequence?	Y
k. Types of sample containers and sample identification number(s)?	Y
l. Preservative(s) used?	Y
m. Parameters requested?	Y
n. Field analysis data and method(s)?	Y
o. Sample distribution and transporter?	Y
p. Field observations?	Y

	Y/N
—Unusual well recharge rates?	Y
—Equipment malfunction(s)?	Y
—Possible sample contamination?	Y
—Sampling rate?	Y
D. Chain-of-Custody Record	
1. Is a chain-of-custody record included with each sample?	Y
2. Does it document the following:	
a. Sample number?	Y
b. Signiture of collector?	Y
c. Date and time of collection?	Y
d. Sample type?	Y
e. Station location?	Y
f. Number of containers?	Y
g. Parameters requested?	Y
h. Signatures of persons involved in chain-of-custody?	Y
i. Inclusive dates of custody?	Y
E. Sample Analysis Request Sheet DER samples have request sheet. facility samples had delivered to consultant's lab.	
1. Does a sample analysis request sheet accompany each sample?	N
2. Does the request sheet document the following:	
a. Name of person receiving the sample?	Y
b. Date of sample receipt?	Y
c. Duplicates?	Y
d. Analysis to be performed?	Y
IV. Review of Quality Assurance/Quality Control	
A. Is the validity and reliability of the laboratory and field generated data ensured by a QA/QC program?	Y
B. Does the QA/QC program include:	
1. Documentation of any deviation from approved procedures?	Y

	Y/N
2. Documentation of analytical results for:	
a. Blanks?	Y
b. Standards?	Y
c. Duplicates?	Y
d. Spiked samples?	Y
e. Detectable limits for each parameter being analyzed?	Y
C. Are approved statistical methods used?	?
D. Are QC samples used to correct data?	?
E. Are all data critically examined to ensure it has been properly calculated and reported?	?
VII. Surficial Well Inspection and Field Observation	
A. Are the wells adequately maintained?	Y
B. Are the monitoring wells protected and secure?	Y
C. Do the wells have surveyed casing elevations?	Y
D. Are the ground-water samples turbid? Some	Y
E. Have all physical characteristics of the site been noted in the inspector's field notes (i.e., surface waters, topography, surface features)?	?
F. Has a site sketch been prepared by the field inspector with scale, north arrow, location(s) of buildings, location(s) of regulated units, locations of monitoring wells, and a rough depiction of the site drainage pattern?	N

	Y/N
VIII. Conclusions	
A. Is the facilitycurrently operating under the correct monitoring progaram according to the statistical analyses performed by the current operator?	Y
B. Does the ground-water monitoring system, as designed and operated, allow for detection or assessment of any possible ground-water contamination caused by the facility?	Y
C. Does the sampling and analysis procedures permit the owner/operator to detect and, where possible, assess the nature and extent of a release of hazardous constituents to ground water from the monitored hazardous waste management facility?	Y

ER–WM–119: 9/88

Commonwealth of Pennsylvania
Department of Environmental Resources
Bureau of Waste Management

Inspection Report/Data Entry 307

Site I.D. # PAD030153128
Site Name Raymark Friction
Address 123 E. Stiegel St.
Manheim PA
Municipality Manheim Boro
Responsible Official Herman Ramey
Person Interviewed Jamie Showers
Inspector Glenn Mitzel

Telephone # 717-665-2211
Operator Name
Address
County
Title Mgr. of Engineering
Title " of Environmental affairs
Time

Date	Inspection Date	Inspection Type	Facility Type	Inspector I.D. #	# Violation
08/31/90	08/31/90	01	66	2339	

Comment Routine Inspection

Sample # Low
Sample # High

Monitoring Points Sampled

INSPECTION TYPE

01 Routine
02 Spill Response
03 Remedial Action
04 Follow Up
05 Crit Stage
06 Sample Only
07 Permitting
08 Superfund
09 Ground Water
10 Survey
11 Part B
12 Complaint
13 Withdrawn
14 Closure
15 Post Closure
16 Form 4
17 Form 4 w/sample
50 Record Rev
99 Other

FACILITY TYPE

Municipal
01 Municipal Waste Landfill
02 Construction/Demolition Landfill
03 Processing
04 Incinerator
05 Surface Application

Residual
06 Landfill
07 Demolition
08 Processing
09 Incinerator
10 Surface Application
11 Surface Impoundment
12 Surface Injection Well

Hazardous
01 Disposal
02 Treatment
03 Storage
04 Transporter
05 Permit by Rule
06 Generator
07 SQG
08 RRR
09 Other
50 Superfund

ER–WM–300: Rev. 3/88

Pennsylvania Department of Environmental Resources
Bureau of Waste Management

Hazardous Waste Inspection Report
Generators – Part B

1–No Violation Observed 2–Not Applicable 3–Not Determined 4–Non-Compliance

Status 1	2	3	4	REQUIREMENT	Chapter Citation 75.262
		X		Hazardous waste determination, copies available Needed on dipping room floor, culvert, and mixing room floor	(b)
X				Identification number	(c)(1)
X				Hazardous waste shipments offered only to licensed transporters	(c)(4)
X				Authorization received from TSD facility for wastes shipped off-site	(d)
X				PA manifest used for intrastate shipments	(e)(2)
X				Disposer state manifest or EPA format manifest used for out-of-state shipments	(e)(3)
X				Manifests filled out properly and completely	(e)(7)
X				Manifests routed properly and within time limits (7 days)	(e)(14) or (15)
X				Proper U.S. DOT shipping containers or packages	(f)(1)(i)
			X	Shipping containers marked and labeled according to U.S. DOT	(f)(1)(ii)
			X	Containers of 110 gal. or less marked with required PA label	(f)(1)(iii)
		X		Placards offered to transporter	(f)(2)
			X	Wastes accumulated on-site for less than 90 days Scrubber Sludge	(g)(1)(i)
			X	Wastes stored in proper containers and properly marked and labeled	(g)(1)(ii)
			X	Containers managed in accordance with 75.265(q)(1)–(8)14	(g)(1)(iii)
			X	Containers clearly marked with accumulation date and visible for inspection	(g)(1)(iv)
X				Records retained at designated location for 20 years	(h)
X				Quarterly reports submitted to the Department	(i)
X				Exception reporting procedures followed	(j)
	X			Hazardous waste disposal plan, if required	(l)
			X	Spill reporting procedures followed Spills on dipping room floor, mixing room, etc.	(m)(1)
			X	Preparedness, Prevention and Contingency Plan and implemented	(m)(5)
	X			Special requirements followed for international shipments	(o)
			X	On the job or classroom personnel training program [75.265(f)] Could not be documented	(g)(1)(6)
			X	Drum accumulation area inspected weekly as per 75.265(q)(5) Could not be documented	(g)(1)(iii)

ER–WM–129: Rev. 12/88

Commonwealth of Pennsylvania
Department of Environmental Resources
Bureau of Waste Management

Inspection Report Comments

Date of Inspection 8/31/90 Identification Number PAD003015328

Company/Facility/Site Name Raymark Friction

Glenn Mitzel and Mark Embeck met Jamie Showers (ENV. MGR.). We inspected bldgs. 36+38. In bldg. 36, oil well linings are manufactured. Fiberglass is woven and then dipped in a phenolic resin mixture (9021) which contains toulene. ~20 drums of waste D001 are generated from this process/yr. Production in Bldg 36 have been slow. A TANK in the dipping room has apparently leaked over a period of time. Phenolic resin residue and waste rags coat the floor. After coating the "fabric" is aged + heat cured. In the aging room, drainage leading to a culvert between two buildings appears to be contaminated. The outfall from this area is also stained. Talking to a worker at the plant, this room used to be coated with residue which they ~~use~~ cleaned with solvent RR-500 resin remover. It appears that some residue was spilled from this room into the culvert. ~~Treatment~~

In bldg 38, clutch facings are manufactured. Fabric is coated with polybutadiene (rubber). Waste rubber is recycled in a "grator". The mixing room ~~for~~ for this bldg. appears to be contaminated with residue from leaking product mixing tanks. The floor is lined with wood blocks + below that, soil.

In the "Requirement" Section of this inspection report, each listed inspection item may provide only a brief version of its corresponding obligation as described in the body of the regulations. Please use the Chapter citations listed on this inspection report as a reference to obtain a detailed description of compliance requirements.

This inspection report is official notification that a representative of the Department of Environmental Resources, Bureau of Waste Management, inspected the above installation. The findings of this inspection are shown in this report. This inspection report shall serve a formal notification of any violations which were observed during the inspection. Violations may also be discovered upon examination of the results of laboratory analyses and review of Department records. Additional notification may be forthcoming, concerning any violations indicated herein and listing any additional violations.

This report does not constitute an order or other appealable action of the Department. Nothing contained herein shall be deemed to grant or imply immunity from legal action for any violation noted herein.

Signature by the person interviewed does not necessarily imply concurrence with the findings on this report, but does acknowledge that the person was shown the report or that a copy was left with the person.

Person Interviewed (signature) _____ Date _____

Inspector (signature) Glenn W. Mitzel Date 9/11/90

ER–WM–129: Rev. 12/88

Commonwealth of Pennsylvania
Department of Environmental Resources
Bureau of Waste Management

Inspection Report Comments

Date of Inspection 8/31/90 Identification Number PAD003015328

Company/Facility/Site Name Raymark Friction

Mr. Stowers indicated that an Underground Storage Tank (2000 gallons) is to be "closed out" in this room, and that an assessment will be done on it.

OUTSIDE the Buildings ~16 RUSTY drums were being stored without labels and with unsecured lids. Mr. Stowers indicated that it was lead-contaminated water from a process line, which Raymark recycles. It was unclear why these drums were being stored outside separate from the process line. It is requested that the process line be outlined and the method of recycling be described in the form of a letter. The Department will consider this liquid a waste until proven otherwise.

One (1) container of hazardous waste scrubber sludge (D008) was being stored in a rolloff on the property. Waste scrubber sludge and liquid has been stored onsite since the wet scrubbers were phased out in 1987. The material was being stored in dumpsters and in above ground tanks onsite (removed U.S.T.'s). A decision was made to remove this material starting in June 1990. "Enpark is brokering" this material to Rentech. (Lewisberry, PA). 20 cu yds. of this material was removed on 7/20/90 (D008), and 1426 gallon liquid (D008) on 8/28/90. The storage of

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Person Interviewed (signature) _____ Date _____

Inspector (signature) Glenn W. Mitzel Date 9/11/90

ER-WM-125: Rev. 12/88

Commonwealth of Pennsylvania
Department of Environmental Resources
Bureau of Waste Management

Inspection Report Comments

Date of Inspection 8/31/90 Identification Number PAD003153328

Company/Facility/Site Name Raynark Friction

hazardous waste for greater than 90 days is a violation of 25 Pa. Code Section 75.262 (g)(1)(i). Storage for greater than one year constitutes disposal under the Solid Waste Management Act (1980).

At the hazardous waste storage area 7 containers were being stored without labels, and 4 of these had lids which were not secured contrary to 75.262(f)(1)(iii), 262(g)(4) and Section 403(b)(2) of the S.W.M.A.

Of worthy note, the former boghouse storage area was swept with handbrooms and residue was containerized.

The Department recommends the following in order for Raynark Friction to achieve compliance with the rules and regulations of the Department: 1) Do a hazardous waste determination in: a) The dipping room - phenolic residue on floor. b) The culvert between the two buildings (+outfall) c) On floor / soil in the mixing room. Please submit analytical data to the Department and take appropriate remedial actions.

2) Never store hazardous waste for > 90 days without a permit.

3) Properly label and secure drums containing hazardous waste. 4) See Checklist

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Person Interviewed (signature) Marked Date

Inspector (signature) Glenn W. Mutzel Date 9/11/90

ER–WM–119: 9/88

Commonwealth of Pennsylvania
Department of Environmental Resources
Bureau of Waste Management

TSD

Inspection Report/Data Entry

Site I.D. # PAD003053328

Site Name RAYMARK FRICTION (IND.)

Address 123 E. STIEGEL ST.
Manheim, PA

Municipality

Responsible Official HERMAN RAMIG

Person Interviewed JAMIE SKINNERS

Inspector Glenn Mitzel

Telephone # 717 665-2211

Operator Name

Address

County

Title MNGR. OF ENGINEERING

Title Mngr. of ENV. ~~ENG~~ AFFAIRS

Time

Date	Inspection Date	Inspection Type	Facility Type	Inspector I.D. #	# Violation
05/11/90	05/11/90	04	06	7339	

Comment Sampling

Sample # Low

Sample # High

Monitoring Points Sampled

INSPECTION TYPE

01 Routine
02 Spill Response
03 Remedial Action
04 Follow Up
05 Crit Stage
06 Sample Only
07 Permitting
08 Superfund
09 Ground Water
10 Survey
11 Part B
12 Complaint
13 Withdrawn
14 Closure
15 Post Closure
16 Form 4
17 Form 4 w/sample
50 Record Rev
99 Other

FACILITY TYPE

Municipal
01 Municipal Waste Landfill
02 Construction/Demolition Landfill
03 Processing
04 Incinerator
05 Surface Application

Residual
06 Landfill
07 Demolition
08 Processing
09 Incinerator
10 Surface Application
11 Surface Impoundment
12 Surface Injection Well

Hazardous
01 Disposal
02 Treatment
03 Storage
04 Transporter
05 Permit by Rule
06 Generator
07 SQG
08 RRR
09 Other
50 Superfund

ER–WM–129: Rev. 12/88

Commonwealth of Pennsylvania
Department of Environmental Resources
Bureau of Waste Management

Inspection Report Comments

Date of Inspection 5/11/90 Identification Number PAD003015328

Company/Facility/Site Name RAYMARK FRICTION

MET WITH HERMAN RAMIG + JAMIE SHOWERS ONSITE. THE PURPOSE of the visit was to check on the progress OF THE REMOVAL OF Baghouse Containers. The last load OF ASBESTOS/ LEPTOXIC WASTE WAS SHIPPED MAY 2, 1990. THE REMAINING BAGS ONSITE ARE LABELLED A NON ASBESTOS. THESE CONTAINERS ARE NOT LEPTOXIC. Department 29 is the only AREA Known to be producing LEAD (LEPTOXIC)/ASBESTOS DUST.

Two Hundred SAMPLES WERE COLLECTED FROM THE CONTAINERS ONSITE. OF THESE 90 COMPOSITES WERE ANALYZED. Twenty two (22) WERE LEPTOXIC. 18 WERE NON HAZARDOUS. A decision WAS MADE TO SHIP ALL BAGS AS HAZARDOUS. APPROXIMATELY 6800 bags were shipped.

THREE (3) SAMPLES WERE COLLECTED ONSITE FOR METALS ANALYSIS – A, B, C, SAMPLES WERE SPLIT WITH RAYMARK.

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Signature by the person interviewed does not necessarily imply concurrence with the findings on this report, but does acknowledge that the person was shown the report or that a copy was left with the person.

Person Interviewed (signature) Jamison A. Showers Date 5/11/90

Inspector (signature) Glenn V. Mutzel Date

PAD 003015328 TSD

ER—WM—119: 9/88

Commonwealth of Pennsylvania
Department of Environmental Resources
Bureau of Waste Management

Inspection Report/Data Entry

Site I.D. # PAD003015328
Site Name RAYMARK FRICTION
Address 123 E. STIEGEL ST.
Mannheim, Pa 17545
Municipality Mannheim Boro
Responsible Official JAMIE SHOWERS
Person Interviewed "
Inspector Glenn Metzel, Tom Miller

Telephone # (717) 665-7211
Operator Name
Address
County LANCASTER
Title
Title
Time

Date	Inspection Date	Inspection Type	Facility Type	Inspector I.D. #	# Violation
09/20/90	09/20/90	04	06	2397	

Comment FOLLOW UP INSPECTION

Sample # Low
Sample # High

Monitoring Points Sampled

INSPECTION TYPE

01 Routine
02 Spill Response
03 Remedial Action
04 Follow Up
05 Crit Stage
06 Sample Only
07 Permitting
08 Superfund
09 Ground Water
10 Survey
11 Part B
12 Complaint
13 Withdrawn
14 Closure
15 Post Closure
16 Form 4
17 Form 4 w/sample
50 Record Rev
99 Other

FACILITY TYPE

Municipal
01 Municipal Waste Landfill
02 Construction/Demolition Landfill
03 Processing
04 Incinerator
05 Surface Application

Residual
06 Landfill
07 Demolition
08 Processing
09 Incinerator
10 Surface Application
11 Surface Impoundment
12 Surface Injection Well

Hazardous
01 Disposal
02 Treatment
03 Storage
04 Transporter
05 Permit by Rule
06 Generator
07 SQG
08 RRR
09 Other
50 Superfund

EH-WM-129: Rev. 12/88

Commonwealth of Pennsylvania
Department of Environmental Resources
Bureau of Waste Management

Inspection Report Comments

Date of Inspection 9/20/90 Identification Number PAD003015328

Company/Facility/Site Name RAYMARK FRICTION

Glenn Mitzel and Tom Miller FROM THE DEPARTMENT MET WITH JAMIE SHOWERS ONSITE TO INSPECT: 1) THE INSTALLATION OF MULTI-LEVEL PIEZOMETERS AS PART OF THE ASSESSMENT OF THE LANDFILL ONSITE. 2) THE REMOVAL OF BAGHOUSE dust CONTAINERS ONSITE. BCM WAS ON THE PROPERTY AND WAS drilling Through THE ASPHALT AREA WEST OF THE LANDFILL. BCM PERSONNEL WERE WEARING PERSONAL PROTECTION AND RESPIRATORS. AN EXCLUSION AREA WAS NOT ESTABLISHED. BCM SHOULD "ROPE OFF" AN AREA AROUND THEIR WORK AREA. THIS SHOULD BE DONE AS PART OF THE SITE SAFETY + HEALTH PLAN.

RAY MARK FRICTION WAS BUSY REMOVING BAGHOUSE CONTAINERS ONSITE. ACCORDING TO MR. SHOWERS THE WASTE CHARACTERIZATION DONE BY REMTECH (LEWISBERRY, PA) INDICATED THAT THE BAGHOUSE DUST IS EPTOXIC FOR LEAD. THE DEPARTMENT WOULD LIKE A COPY OF THIS HAZ. WASTE CHARACTERIZATION WITHIN ONE(1) WEEK OF RECEIPT OF THIS LETTER.

Apparently, RAYMARK is trying to REMOVE ALL Baghouse

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Signature by the person interviewed does not necessarily imply concurrence with the findings on this report, but does acknowledge that the person was shown the report or that a copy was left with the person.

Person Interviewed (signature) _____ Date _____

Inspector (signature) _____ Date _____

ER-WM-129: Rev. 12/88

Commonwealth of Pennsylvania
Department of Environmental Resources
Bureau of Waste Management

Inspection Report Comments

Date of Inspection 4/20/90 Identification Number PAD003015328

Company/Facility/Site Name RAYMARK FRICTION

CONTAINERS FROM THE SITE (THOSE EPTOXIC) BEFORE THE THIRD-THIRD LAND BAN RESTRICTIONS BEGIN ON MAY 8, 1990.

RAYMARK FRICTION WAS Re-bagging ALL CONTAINERS BEFORE SHIPMENT. WORKERS FROM RAYMARK WERE re-bagging + LOADING THE CONTAINERS ON TRAILERS (WITH TOWMOTORS). THESE WORKERS WERE DRESSED IN TYVEK'S, but did NOT HAVE RESPIRATORY PROTECTION. SOME RESIDUAL DUST WAS ON THE TOPS OF SOME CONTAINERS, AND SOME BAGS ONSITE WERE PARTIALLY RIPPED (PICTURES WERE TAKEN). THE DEPARTMENT RECOMMENDS RESPIRATORY PROTECTION FOR WORKERS INVOLVED IN THE SHIPMENT OF THESE CONTAINERS. REMTECH ENVIRONMENTAL WAS PROVIDING TRANSPORTATION (PAD067098822). THIS WASTE WAS BEING MANIFESTED FROM RAYMARK (MANHEIM) to REMTECH (LEWISBERRY), AND THEN FROM REMTECH to GSX IN South Carolina (PINE WOODS). MR. SHOWERS ESTIMATED THAT 3500 bags have been shipped THUS FAR.

IT IS ALSO RECOMMENDED THAT RAYMARK FRICTION Submit TO THE DEPARTMENT A SITE SAFETY + HEALTH PLAN FOR THE REMOVAL OF THESE CONTAINERS, AS SOON AS POSSIBLE.

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Person Interviewed (signature) _____ Date _____

Inspector (signature) _____ Date _____

ER–WM–119: 9/88

Commonwealth of Pennsylvania
Department of Environmental Resources
Bureau of Waste Management

Inspection Report/Data Entry

Site I.D. # PAD007015328
Site Name RAYMARK FRICTION
Address 123 E. STIEGEL ST.
Manheim PA
Municipality Manheim Boro
Responsible Official HERMAN RAMIG
Person Interviewed JAMES SHOWERS
Inspector Glenn Mitzel

Telephone #
Operator Name
Address
County Lancaster
Title Mgr. of Engineering
Title " , Mgr of Env.
Time

Date	Inspection Date	Inspection Type	Facility Type	Inspector I.D. #	# Violation
02/21/90	02/21/90	09	06	7339	

Comment VIDEO CAM

Sample # Low
Sample # High

Monitoring Points Sampled

INSPECTION TYPE

01 Routine
02 Spill Response
03 Remedial Action
04 Follow Up
05 Crit Stage
06 Sample Only
07 Permitting
08 Superfund
09 Ground Water
10 Survey
11 Part B
12 Complaint
13 Withdrawn
14 Closure
15 Post Closure
16 Form 4
17 Form 4 w/sample
50 Record Rev
99 Other

FACILITY TYPE

Municipal
01 Municipal Waste Landfill
02 Construction/Demolition Landfill
03 Processing
04 Incinerator
05 Surface Application

Residual
06 Landfill
07 Demolition
08 Processing
09 Incinerator
10 Surface Application
11 Surface Impoundment
12 Surface Injection Well

Hazardous
01 Disposal
02 Treatment
03 Storage
04 Transporter
05 Permit by Rule
06 Generator
07 SQG
08 RRR
09 Other
50 Superfund

ER–WM–129: Rev. 12/88

Commonwealth of Pennsylvania
Department of Environmental Resources
Bureau of Waste Management

Inspection Report Comments

Date of Inspection 2/21/90 Identification Number PAD003015328

Company/Facility/Site Name RAYMARK FRICTION

GLENN MITZEL AND RICH MORGAN FROM THE DEPARTMENT MET WITH HERMAN RAMIG (MNGR. OF ENGINEERING) AND JAMIE SHOWERS (MNGR. OF ENVIRONMENTAL ENGINEERING) ONSITE. THE PURPOSE OF THE INSPECTION WAS TO RECORD, WITH A "CAMCORDER", THE BAGHOUSE STORAGE AREA, AND TO EXAMINE THE CONDITION OF THE CONTAINERS. THE FORMER DISPOSAL AREA WAS ALSO RECORDED ON THE VHS "CAMCORD". THIS AREA HAD BEEN ~~SEEN~~ COVERED WITH 1 FOOT OF SOIL. ~~THE~~ TWO CONTAINERS OF BAGHOUSE DUST WERE FOUND THAT WERE RIPPED, BUT ~~FOR~~ THE ~~REST~~ OTHER CONTAINERS ONSITE APPEARED TO BE INTACT.

DRUMS WERE FOUND ON PAD ~~S~~ WHICH CONTAINED LIQUID ~~STUFF~~ and TAR LIKE RESIDUES (RESIN). ALSO, A ~~COUPLE~~ SOME OF ~~DRUM~~ THE DRUMS APPEARED TO BE CONTAINERS OF OIL PRODUCTS. SOME OF ~~THE~~ THIS OIL WAS LEAKING. THE DEPARTMENT RECOMENDS THAT A HAZARDOUS WASTE DETERMINATION BE DONE ON THESE DRUMS, AND IF HAZARDOUS, BE REMOVED TO A PERMITTED FACILITY WITHIN 90 days. A REPORT SHOULD SHOULD BE SENT TO THE DEPARTMENT WITHIN 10 days Addressing ~~these~~ drums AND Proper disposal. OIL RESIDUAL SHOULD BE CLEANED UP & disposed of ACCORDINGLY.

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Person Interviewed (signature) Herman J. Ramig Date 2-21-90

Inspector (signature) Glenn W. Mitzel Date 2/21/90

ER–WM–129: Rev. 12/88

Commonwealth of Pennsylvania
Department of Environmental Resources
Bureau of Waste Management

Inspection Report Comments

Date of Inspection 2/21/90 Identification Number PAD003015328

Company/Facility/Site Name RAYMARK FRICTION

THE DRUM STORAGE AREA WAS INSPECTED, AND WAS IN COMPLIANCE.

OK Gum

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Person Interviewed (signature) Herman J. Ramig Date 2-21-90

Inspector (signature) Glenn W. Mitzel Date 2/21/90

CEI

ER-SWM-88:2/83

Commonwealth of Pennsylvania
Department of Environmental Resources
Bureau of Solid Waste Management

13 Nov 1989
Date Prepared

PAD 003015328
I.D. Number

Hazardous Waste Management

Inspection Compliance Checklist for a Facility Which May Be Affecting Ground-Water Quality
(Form 5)

Facility Name	Raymark Industries	Facility Permit Number	same as PAD
County	Lancaster	Municipality	Manheim
Company Address	PO Box 1050	Inspector's Name	T.J. Miller/T. Hamlow
	123 Steigel, Manheim, Pa. 17545		
Company Contact/Official	Brian O'Donel	Branch/Organization	PaDER / BWM
Title	Mgr., Engineering	Date of Inspection	4/26/89

Type of facility: (check appropriately)	Yes	No	Unknown
a) surface impoundment			
b) landfill	✓		
c) land treatment facility			
d) disposal waste pile			

1.	Have comparisons of ground-water contamination indicator parameters (75.265(n)(8)(iii)) for the upgradient well(s) shown a significant increase (or pH decrease as well) over initial background? 75.265(n)(14)(i)	see attached narrative		
	a) If "Yes", has this information been submitted to the Department according to 75.265(n)(18)(ii)(B)?			
2.	Have comparisons of indicator parameters for the downgradient wells (75.265(n)(8)(iii)) shown a significant increase (or pH decrease as well) over initial background? 75.265(n)(14)(ii)			
	a) If "Yes", were additional ground-water samples taken for those downgradient wells where the significant difference was determined? 75.265(n)(14)(ii)			
	1) Were samples split in two?			
	2) Was the significant difference due to human (e.g., laboratory) error? If "Yes", do not continue.			

November 14, 1989

CEI Inspection
Raymark Industries
PAD 003015328
Lancaster Co. Pa.
date of inspection: 4/26/89

Raymark Industries, at their Manheim plant manufactures friction materials such as brakepads, clutch facings and flexible drive belts. Under RCRA interim status, off-specification products and dust collector sludges were disposed of in a captive landfill. This unlined facility was developed within the 100 year flood line of a perennial stream, underlain by carbonate bedrock and below the surface of the regional water table. The Department denied Raymark's Part B permit application on August 1, 1986 which terminated interim status and required the cessation of disposal in the captive landfill. Raymark submitted in 1987, a closure plan for the on-site landfill which failed to meet requirements of the Department's Rules and Regulations. Technical and administrative issues of the closure plan have not been resolved to the date of this writing.

As of January, 1989, approximately 3100 bags of baghouse dust had accumulated on site at the Raymark facility. In July of 1989, the PaDER issued an order to Raymark requiring the submission of an acceptable landfill closure plan and a plan and schedule to remove accumulated baghouse dust from the site.

Raymark has not conducted Appendix VIII(IX) sampling but does continue to sample and analyze groundwater from the facility wells on a quarterly basis. BCM Engineers of Plymouth Meeting, Pa. provide technical support to Raymark for monitoring and groundwater related issues. Sampling is conducted according to the approved plan.

The Department's Order is under appeal. During settlement of the appeal or litigation, a reasonable closure plan for this facility will be developed and outstanding groundwater monitoring requirements will be addressed.

ER–WM–119: 9/88

Commonwealth of Pennsylvania
Department of Environmental Resources
Bureau of Waste Management

TSD

Inspection Report/Data Entry

Site I.D. # PA D 0 0 3 0 1 5 3 2 8
Site Name RAYMARK FRICTION
Address 173 E. STIEGEL ST
Manheim, PA 17545
Municipality Manheim Boro
Responsible Official BRIAN O'DONER
Person Interviewed " BRUCE KEEFER
Inspector Glenn Mitzel, Rick Morgan

Telephone #
Operator Name
Address
County
Title ENGINEERING MNGR.
Title " , ENV. TECH.
Time 10:05 AM.

Date	Inspection Date	Inspection Type	Facility Type	Inspector I.D. #	# Violation
07/17/89	07/17/89	04		2339	

Comment FOLLOW UP INSPECTION

Sample # Low
Sample # High

Monitoring Points Sampled

INSPECTION TYPE

01 Routine
02 Spill Response
03 Remedial Action
04 Follow Up
05 Crit Stage
06 Sample Only
07 Permitting
08 Superfund
09 Ground Water
10 Survey
11 Part B
12 Complaint
13 Withdrawn
14 Closure
15 Post Closure
16 Form 4
17 Form 4 w/sample
50 Record Rev
99 Other

FACILITY TYPE

Municipal
01 Municipal Waste Landfill
02 Construction/Demolition Landfill
03 Processing
04 Incinerator
05 Surface Application

Residual
06 Landfill
07 Demolition
08 Processing
09 Incinerator
10 Surface Application
11 Surface Impoundment
12 Surface Injection Well

Hazardous
01 Disposal
02 Treatment
03 Storage
04 Transporter
05 Permit by Rule
06 Generator
07 SQG
08 RRR
09 Other
50 Superfund

ER-WM-129: Rev. 12/88

Commonwealth of Pennsylvania
Department of Environmental Resources
Bureau of Waste Management

Inspection Report Comments

Date of Inspection 7/17 Identification Number PAD003015328

Company/Facility/Site Name RAYMARK FRICTION

Glenn Mitzel AND RICH MORGAN FROM THE DEPARTMENT MET WITH BRIAN O'DONNEL (ENGINEERING MNGR.) AND BRUCE KEEFER (ENVIRONMENTAL TECHNICIAN) FROM RAYMARK ~~INDUSTRIES~~ FRICTION. THE PURPOSE OF THE VISIT WAS TO Follow UP ON PROGRESS AT THE FACILITY CINCE THE JAN 1989 Inspection, AND TO INSPECT THE AREAS WHERE BAGHOUSE dust is stored AND ALSO the HAZ. WASTE landfill. RAYMARK FRICTION LEASES THE BUILDING AND EQUIPMENT FROM RAYMARK INDUSTRIES. THE VISIT WAS KEPT BRIEF DUE TO RESPECT FOR THE DEATH OF A FELLOW EMPLOYEE OF MR. O'DONNEL'S AND MR. KEEFER.

— THE 96 drums OF ACT. CARBON CITED IN THE JAN. INSPECTION HAVE BEEN Shipped off-site (ACTUALLY 79 drums). ENVIROTOL (Sewickley, PA) TOOK THIS SPENT ACTIVATED CARBON AND CARBON FROM ~~THE~~ SOLVENT RECOVERY SYSTEM WHICH RECENTLY "CAUGHT FIRE." 79 drums - 7/12/89 + SOME ACT CARBON FROM SOLVENT RECOVERY SYSTEM 7/13/89 TOOK THE REST OF ACT CARBON. THEY ARE PRESENTLY TESTING FOR HAZ. CONSTITUENTS (ACCORDING TO MR. O'Donnel).

MONEY HAS BEEN APPROPRIATED TO REMOVE (UP TO 3000 BAGS FROM) A BAGHOUSE DUST ON SITE PRESENTLY THERE ARE 4524 (± 5%) BAGS ON SITE. THE COST OF REMOVAL IS $140/bag (1.85 cuyds) PER DISPOSAL AT MODERN LANDFILL.

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Person Interviewed (signature) Brian O'Donnel Date 7/17/89

Inspector (signature) Glenn W. Mitzel Date 7/17/89

ER-WM-129: Rev. 12/88

Commonwealth of Pennsylvania
Department of Environmental Resources
Bureau of Waste Management

Inspection Report Comments

Date of Inspection 7/17/89 Identification Number PAD003015328

Company/Facility/Site Name

PRESENTLY, RAYMARK FRICTION generates ~40 bags/week. OFFSPEC DRUMS GONE IN JAN. Inspection have been removed also. MANIFESTS + Follow up on THESE WILL BE done AT A LATER DATE.

- RAYMARK FRICTION BEGAN OPERATIONS AT THE FACILITY + BEGAN LEASING PROPERTY IN September 1988.

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Person Interviewed (signature) [signature] Date 7/17/89

Inspector (signature) Glenn W. Mytzel Date 7/17/89

ER–WM–117: Rev. 4/87

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF WASTE MANAGEMENT

EPA TSD

INSPECTION REPORT

GEN/TSD

Site ID # PAD003015328 License # _____
Site Name: RAYMARK Phone # ( ) _____
Address 123 E. STIEGEL ST.
City Manheim State PA Zip Code 17545
Municipality Manheim Boro County _____

Responsible Official DENNIS WELLER Title MNGR. OF ENGINEERING
Person Interviewed " Title "

Inspector Glenn Mitzel, Tony Kar

Inspection Type

01 Routine
04 Follow Up
05 Crit Stage
06 Sample Only
07 Permitting
08 Superfund
09 Ground Water
10 Survey
11 Part B
12 Complaint
13 Withdrawn
14 Closure
15 Post Closure
16 Form 4
17 Form 4 w/s
50 Record Rev
99 Other

(Generator Only)

(51) Routine
54 Follow Up
56 Sample
60 Survey
62 Complaint
70 Record Rev
98 Other

Hazardous ☐
Residual ☐
Municipal ☐

Treatment ☐
Storage ☐
Disposal ☐
Generator ☐
Processing ☐
Surface App ☐
Transporter ☐
PBR ☐

On-Site Start Time 10:36
On-Site End Time 1:30
On-Site Total Time 3hrs

Site ID # PAD003015328

Due Date	Inspection Date	Type	Inspector ID #	# Violation	Enforcement
01/03/88	01/03/88	ST	2339		

Comment INSPECTION/MOVIE II DISCUSSION.

Sample # Low _____ Sample # High _____

Monitoring Points Sampled

EPA-WM-315: 8/87

Pennsylvania Department of Environmental Resources
Bureau of Waste Management

Hazardous Waste Inspection Report
Comments — Part C

Date of Inspection 1/3/88 Identification Number PAD063015328

Company, Installation Name RAYMARK

County LANC. Municipality MANHEIM BORO

Glenn Mitzel + Tony Kar from the Department inspected Raymark and met with DENNIS A. WELLER (MNGR. OF ENGINEERING). We inspected Bldgs 70, 74, + 67. 70 (BRAKE LININGS), 74 (CLUTCHES) 67 (REINFORCED "PLASTIC" fiberglass products. We inspected off spec waste products that RAYMARK is seeking approval (MODULE I) to send to LARA LANDFILL. THE WASTE PRODUCTS WILL NOT CONTAIN LEAD OR ASBESTOS + the WASTE will also NOT contain Baghouse dust which is approved to go to MODERN LANDFILL. Baghouse dust has been accumulating ONSITE SINCE WASTE STOPPED BEING LANDFILLED ONSITE (March 13, 1987). AN ESTIMATED 2000 BAGS HAVE BEEN SHIPPED OFF SINCE THAT TIME AND AN ESTIMATED 3100 BAGS ARE ON SITE (±200).

96 (EST.) DRUMS WERE FOUND WITH WASTE ACTIVATED CARBON INSIDE NEXT TO "TENNIS COURTS"). THEY HAVE BEEN THERE SINCE DEC 1987, and SOME ARE RUSTING. THESE NEED TO BE TESTED FOR HAZ. CONSTITUENTS (WITHIN 60 DAYS). THE DEPARTMENT RECOMENDS THAT RAYMARK TEST THESE DRUMS FOR HAZ CONSTITUENTS. ~~THESE~~ THIS ACTIVATED CARBON IS SENT TO CALGON TO BE RE-USED. 1 drum was found WITH A TOUENE + Heptane ~~LABEL~~ LABEL (PRINTED ON DRUM) OUTSIDE WITH BAGHOUSE DUST. THIS drum should ~~BE~~ BE TESTED ~~FOR~~ FOR HAZ. CONSTITUENTS and IF IT IS A WASTE DISPOSED OF TO A PERMITTED FACILITY WITHIN 90 days.

8 metal Drums were found WITH DUST WASTE + 5 Fibre drums filled WITH OFF SPEC grade PRODUCTS. 3 drums were found ~~on~~ ON

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rson Interviewed (signature) Dennis A Weller Date 1/3/88

pector (signature) Glenn W. Mitzel Date 1/3/88

ER-WM-315: 8/87

Pennsylvania Department of Environmental Resources
Bureau of Waste Management

Hazardous Waste Inspection Report
Comments — Part C

Date of Inspection 1/3/88 Identification Number PAD003015328

Company, Installation Name RAYMARK

County LANC. Municipality MANHEIM BORO

SOUTH EAST of Landfill. THESE DRUMS SHOULD ALSO BE TESTED FOR HAZ. CONSTITUENTS & IF SO BE SENT TO A PERMITTED FACILITY WITHIN 90 days.

IN June 1986 a plan was submitted to the DEPARTMENT FOR CLOSURE OF THE HAZ. WASTE LANDFILL. IT ~~WAS~~ HAS NOT BEEN APPROVED. THE LAST WASTE WENT INTO THE LANDFILL ON MARCH 13, 1987.

RAYMARK ~~HAS~~ DOES NOT HAVE A BOND FOR THEIR HAZ. WASTE LANDFILL ONSITE. THIS IS A VIOLATION of Chapter 75.311 of the Rules & Regulations of the Department. A TRUST HAS BEEN SET UP FOR EPA REQUIREMENTS FOR RCRA CLOSURE OF THE LANDFILL.

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rson Interviewed (signature) Dennis A Wilson Date 1/3/88

pector (signature) Glenn W. Mitzel Date 1/3/88

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
841 Chestnut Building
Philadelphia, Pennsylvania 19107

SUBJECT: RCRA Inspection [redacted] **DATE:** 4-8-88

FROM: Edward A. Vollberg,P.E.
Environmental Engineer (3HW11)

TO: File

Thru: Joe Kotlinski, Chief
PA RCRA Enforcement Section (3HW11)

THE STATE IS TAKING ACTION TO RESOLVE THE VIOLATIONS IN THIS INPECTION REPORT.

WE WILL MONITOR THE STATE ACTIVITY REGARDING RESOLUTION OF THESE VIOLATIOIINS.

EPA.

1-WM-117: Rev. 4/87

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF WASTE MANAGEMENT

INSPECTION REPORT

Site ID # PAD003015328 License # _____
Site Name: RAYMARK IND. Phone # (717) _____
Address P.O. BOX 1050 123 EAST STIEGEL ST.
City MANHEIM State PA Zip Code 17545
Municipality _____ County LANC.

Responsible Official DENNIS WELLER Title _____
Person Interviewed GEORGE HOUSER Title _____

Inspector DON HENTZ, DOUG Z., JOEL STIEGMAN

Inspection Type

01 Routine
04 Follow Up
05 Crit Stage
06 Sample Only
07 Permitting
08 Superfund
09 Ground Water
10 Survey
11 Part B
12 Complaint
13 Withdrawn
14 Closure
15 Post Closure
16 Form 4
17 Form 4 w/s
50 Record Rev
99 Other

(Generator Only)

(51) Routine
54 Follow Up
56 Sample
60 Survey
62 Complaint
70 Record Rev
98 Other

Hazardous X
Residual ☐
Municipal ☐

Treatment ☐
Storage ☐
Disposal X
Generator ☐
Processing ☐
Surface App ☐
Transporter ☐
PBR ☐

On-Site Start Time _____
On-Site End Time _____
On-Site Total Time _____

Site ID # PAD003015328

Due Date	Inspection Date	Type	Inspector ID #	# Violation	Enforcement
032488	032488	51	2325		

Comment LARGE QTY

Sample # Low _____ Sample # High _____

Monitoring Points Sampled

HAZARDOUS WASTE INSPECTION REPORT
Generators - Part B

1- NON-COMPLIANCE, 2- COMPLIANCE, 3- NOT APPLICABLE, 4- NOT DETERMINED

COMPLIANCE STATUS 3	4	REQUIREMENT	CHAPTER CITATION 75.262
✓		Identification number	(c) (1)
✓		Hazardous waste shipments offered only to licensed transporters	(c) (4)
✓		Authorization received from TSD facility for wastes shipped off-site	(d)
✓		PA manifest used for intrastate shipments (e)(2)	~~(e) (1) (~~
✓		Disposer state manifest or EPA format manifest used for out-of-state shipments (e)(3)	~~(e) (1) (i~~
✓		Manifests filled out properly and completely (e)(7)	~~(e) (1)~~
✓		Manifests routed properly and within time limits ~~(24 hours)~~ (7 ~~days~~) (e)(14) or (15)	~~(e) (2)~~
✓		Proper U.S. DOT shipping containers or packages	(f) (1) (
✓		Shipping containers marked and labeled according to U.S. DOT	(f) (1) (i
✓		Containers of 100 gal. or less marked with required PA label	(f) (1) (i
	✓	Placards offered to transporter	(f) (2)
✓		Wastes accumulated on-site for less than 90 days	(g) (1)
		Wastes stored in proper containers and properly marked and labeled ✗ SEE COMMENTS	(g) (1) (
✓		Containers managed in accordance with 75.265(~~g~~) (g)(1) - (9)	(g) (1) (
		Containers clearly marked with accumulation date and visible for inspection ✗ SEE COMMENTS	(g) (1) (
✓		Records retained at designated location for 20 years	(h)
✓		Quarterly reports submitted to the Department	(i)
✓		Exception reporting procedures followed	(j)
✓		Hazardous waste disposal plan, if required	(l)
✓		Spill reporting procedures followed	(m) (1)
✓		Preparedness, Prevention and Contingency Plan ~~approved~~ and implemented	(m) (5)
✓		Special requirements followed for international shipments	(o)
✓		On the job or classroom personnel training program [15.265(f)]	(g)(1)(v)
✓		Drum accumulation area inspected & inspection logged ~~daily~~ WEEKLY as per 75.265(g)(5)	(g)(1)(ii
✓			

EP-WM-315: 8/87

Pennsylvania Department of Environmental Resources
Bureau of Waste Management

Hazardous Waste Inspection Report
Comments – Part C

Date of Inspection 3/24/88 Identification Number PAD 003015328 0488

Company, Installation Name RAYMARK

County LANC Municipality MANHEIM

DON HENTZ, DOUG ZIMMERMAN, JOEL STEIGMEN MET WITH DENNIS WELLER AND GEORGE HOUSER. RAYMARK IS LARGE QUANTITY GENERATOR, GENERATING APPROX 60-80 DRMS PER 90 DAY PICK-UP SCHEDULE. SOLVENT RECOVERY SERVICE (N.J.) TRANSPORTS WASTE, USUALLY D001. ~~[illegible]~~ D009 AND D004 WASTE WERE NOTED DURING A "GENERAL CLEAN UP."

#4 DRUM STORAGE AREA SHOULD HAVE DRUMS STORED SO LABELS ARE VISIBLE FOR INSPECTION. A WALK THRU ISLE IS SUGGESTED.

WASTE DRUMS HELD AT VARIOUS PICK UP POINTS THRU THE PLANT MUST BE LABELED (OR RECORDED) TO SHOW ACCUMULATION DATE. THE DRUMS MUST BE IDENTIFIED AS HAZARDOUS.

A STORM SEWER SYSTEM PRESENTS A POTENTIAL PROBLEM IN THAT HAZ. WASTE IS "STAGED" NEAR IT. THE AREA SHOULD BE MOVED FROM STORM SEWER INFLOW.

This inspection report is official notification that a representative of the Department of Environmental Resources, Bureau of Waste Management, inspected the above installation. The findings of this inspection are shown in this report. Any violations which were uncovered during the inspection are indicated. Violations may also be discovered upon examination of the results of laboratory analyses and review of Department records. Notification will be forthcoming, confirming any violations indicated herein and listing any additional violations.

erson Interviewed (signature) George E. Houser RAYMARK Date 3/25/88

spector (signature) Donald A. Hentz, Jr. Date 3/24/88

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
841 Chestnut Building
Philadelphia, Pennsylvania 19107

SUBJECT: RCRA Inspection - Raymark
PAD 00 301 5328

DATE: 4-7-88

FROM: Edward A. Vollberg, P.E.
Environmental Engineer (3HW11)

TO: File

Thru: Joe Kotlinski, Chief
PA RCRA Enforcement Section (3HW11)

BASED UPON A REVIEW OF THE RCRA INSPECTION REPORT FOR THE FACILITY REFERENCED ABOVE, I HAVE DETERMINED THAT NO FURTHER ACTION IS REQUIRED AT THIS TIME.

ON LUMIS ✓ C

·WM–117: Rev. 1/86

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF WASTE MANAGEMENT

INSPECTION REPORT

Site ID # PAD 003015328 License # ____
Site Name: RAYMARK Phone # ( ) ____
Address ____
City MANHEIM State ____ Zip Code ____
Municipality MANHEIM BORO County LANC.

Responsible Official ____ Title ____
Person Interviewed ____ Title ____

Inspector ____

Inspection Type *(Generator Only)*

1 Routine	11 Part B	51 Routine	Hazardous ☐	Treatment ☐
4 Follow Up	12 Complaint	54 Follow Up	Residual ☐	Storage ☐
5 Crit Stage	13 Withdrawn	56 Sample	Municipal ☐	Disposal ☐
6 Sample Only	(14) Closure	60 Survey		Generator ☐
7 Permitting	15 Post Closure	62 Complaint		Processing ☐
8 Superfund	50 Record Rev	70 Record Rev		Surface App ☐
9 Ground Water	99 Other	98 Other		Transporter ☐
0 Survey				

Site ID # |_|_|_|_|_|_|_|_|_|_|_|_|

On-Site Start Time ____
On-Site End Time ____
On-Site Total Time ____

Due Date	Inspection Date	Type	Inspector ID #	# Violation	Enforcement
61087	061087	14	2323		

Comment |_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|

Sample # Low |_|_|_|_|_|_| Sample # High |_|_|_|_|_|_|

Monitoring Points Sampled

HAZARDOUS WASTE INSPECTION REPORT
Part C - Comments

te of Inspection 6-10-87 Identification Number

mpany, Installation Name RAYMARK

unty LANC. Municipality MANHEIM.

JOE SEBZDA. SHARON SVITEK AND MYSELF MET WITH DENNIS WELLER AND BOB MOODY TO DISCUSS THE CLOSURE PLAN. APPROXIMATELY 10.5 ACRES WILL BE CAPPED HALF OF WHICH IS NOW COVERED WITH ASPHALT. THE B.C.M REPORT STATED THAT A PORTION OF THE LANDFILL BENEATH THE ASPHALT IS UNDER WATER. WHILE WALKING THE SITE IT WAS NOTED THE SOME OF THE MATERIAL WAS PLACED OUTSIDE THE FENCE TO THE NORTH. TWO PILES ARE MARKED WITH FLAGS. IT APPEARS THAT THE MATERIAL HAS ALSO BEEN DUMPED TO THE EAST OF THE ACESS ROAD TO WELL 9. IT IS RECOMMENDED THAT THIS PILE BE SAMPLED AND ANALYZED FOR CONSTITUENTS FOUND IN THE ACTIVE LANDFILL. THE RESULTS SHOULD BE SUBMITTED TO THE DEPT.

s inspection report is official notification that a representative of the Department of ironmental Resources, Bureau of Solid Waste Management, inspected the above installation. findings of this inspection are shown in this report. Any violations which were uncovered ing the inspection are indicated. Violations may also be discovered upon examination of results of laboratory analyses and review of Department records. Notification will be thcoming, confirming any violations indicated herein and listing any additional violations.

son Interviewed (signature) Date

pector (signature) Douglas E. Zimmerman Date 6-18-87